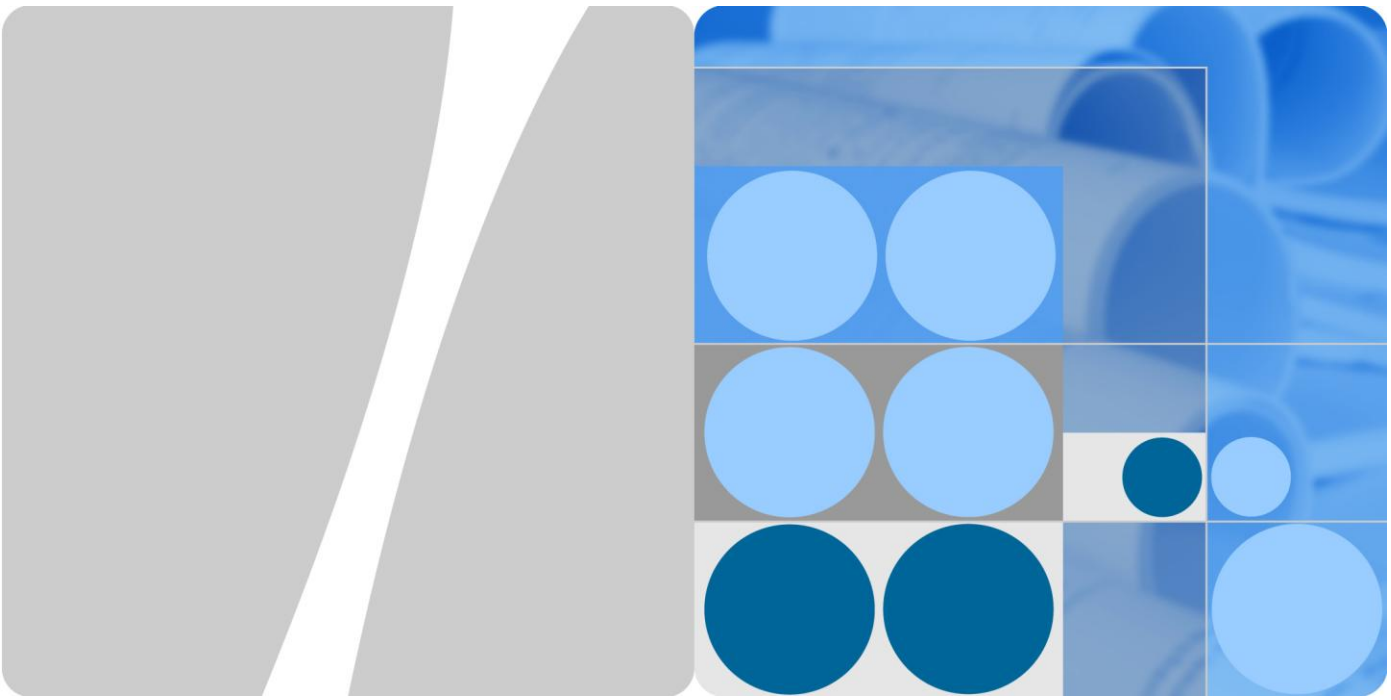

SmartLogger1000

User Manual

Issue 04

Date 2013-12-15

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About This Document

Overview

This document introduces the SmartLogger1000 (**SmartLogger**) in terms of installation, electrical connections, system operation and maintenance, and troubleshooting measures. Get familiar with the functions and features of the SmartLogger, and read safety precautions before installing and operating the SmartLogger.

You can print the document. Store the paper copies or compact disk (CD) properly for future use. You can also download the latest documents from **http://enterprise.huawei.com**.

Intended Audience

This document is intended for photovoltaic (PV) plant operators and qualified electrical technical personnel.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
NOTICE	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results. NOTICE is used to address practices not related to personal injury.
NOTE	Calls attention to important information, best practices and tips.

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Symbol	Description
	NOTE is used to address information not related to personal injury, equipment damage, and environment deterioration.

Change History

Changes between document issues are cumulative. The latest document issue contains all the changes made in earlier issues.

Issue 04 (2013-12-01)

This is the fourth official release.

Added **Server+Client** mode as a NetEco parameter in 6.2.10 Setting Communications Parameters.

Added address assignments in 6.2.14 Managing Devices.

Added the setting of USB parameters in 7.28.2 Setting USB Parameters.

Updated parts of the web user interface (WebUI).

Issue 03 (2013-09-10)

This issue is the third official release.

Compared with the second official release, this document updates some operations and figures for the LCD and WebUI.

Issue 02 (2013-06-06)

This issue is the second official release.

Issue 01 (2013-04-25)

This issue is the first official release.

Compared with the original draft, this document updates some operations and figures for the LCD and WebUI.

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1 Safety Precautions

About This Chapter

Read the safety precautions carefully. Otherwise, human injury and equipment damage may occur.

1.1 Overview

This topic describes the precautions for installing and operating the SmartLogger.

1.2 Symbols

The following table describes all symbols on the Smart Logger.

1.1 Overview

This topic describes the precautions for installing and operating the SmartLogger.

Personnel Requirements

- Only qualified and trained electrical technicians are allowed to install and operate the SmartLogger.
- Operation personnel should understand the composition and working principles of the PV grid-tied power generating system and local regulations.

Identification Protection

- The signs on the SmartLogger shell specify important information about secure operations. Do not damage the signs.
- The nameplate attached to the bottom of the SmartLogger lists the SmartLogger parameters. Do not damage the nameplate.

Installation

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NOTICE

Before installation, read this document carefully. Huawei shall not be liable for any consequence caused by violation of the regulations specified in this document.

- Before installing the SmartLogger, ensure that it is not connected or energized.
- Install the SmartLogger in well-ventilated environments to ensure system performance.
- Ensure that the heat dissipation holes of the SmartLogger are not blocked.
- Do not move the components inside the shelf except for the wiring terminals at the bottom.

Operation

NOTICE

Strictly comply with the safety precautions in this document and associated documents to operate the SmartLogger.

When operating the SmartLogger, follow local laws and regulations.

Maintenance and Replacement

- A faulty SmartLogger requires overall maintenance. Contact the dealer if any fault occurs in the SmartLogger shelf.
- Maintain the SmartLogger after you get familiar with this document and tools and testing equipment are available.
- When maintaining the SmartLogger, wear ESD gloves and comply with ESD precautions.

1.2 Symbols

The following table describes all symbols on the Smart Logger.

Symbol	Name	Meaning
	Refer to the instructions.	Remind operators to refer to the instructions shipped with the SmartLogger.
	CE certification label	This product complies with the Conformite Europeenne (CE) certification standards.
	EU waste electrical and electronic equipment (WEEE) label	Do not dispose of the SmartLogger as household garbage. For details about how to deal with the

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Symbol	Name	Meaning
		undesirable SmartLogger, refer to 9 Disposing of the SmartLogger.

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2 Overview

About This Chapter

This topic describes the SmartLogger in terms of functions, networking applications, product features, appearance, and the monitoring panel.

2.1 Product Description

This topic describes the SmartLogger in terms of functions, networking applications, and product features.

2.2 Appearance

This topic describes the SmartLogger in terms of its appearance and specifications.

2.3 Monitoring Panel

This topic describes the monitoring panel, including an LCD, indicators, buttons, and the default page.

2.1 Product Description

This topic describes the SmartLogger in terms of functions, networking applications, and product features.

Functions

The SmartLogger is dedicated for monitoring and managing the PV power generating system. It converges all ports, converts protocols, collects and stores data, and centrally monitors and maintains the PV power generating system.

Networking Applications

The SmartLogger applies to the PV system. It can monitor Huawei inverters, as well as environmental monitoring instruments (EMI) that have RS485 ports supporting the MODBUS protocol by other manufacturers. The SmartLogger networking shows in Figure 2-1.

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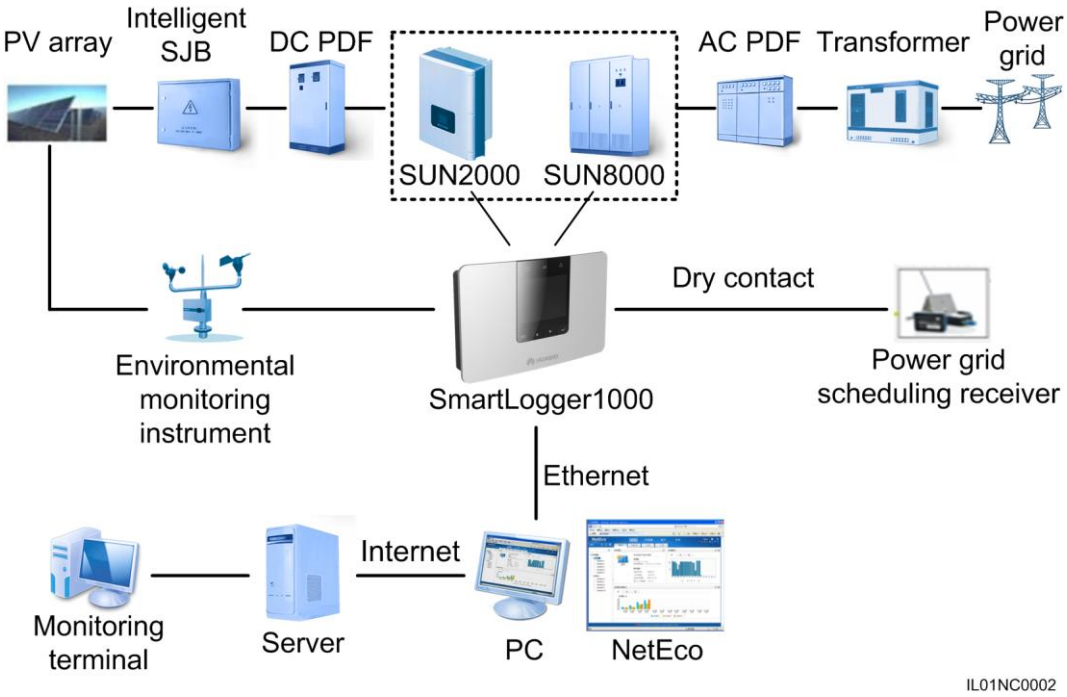
Figure 2-1 SmartLogger networking



Features

The SmartLogger enjoys the following features:

- Central monitoring
  - Centrally monitors a maximum of 60 devices.
  - Allows users to view information about power station, devices, products, and alarms, set parameters, and maintain devices on the liquid crystal display (LCD).
  - Allows users to monitor and manage the PV power generating system on the embedded WebUI, for example, viewing real-time information about power station, devices, and faults, and setting device parameters in remote mode.
- Graphical data
  - Displays energy yields and real-time monitoring information on the LCD in graphics and texts
  - Displays energy yields, real-time monitoring information, and performance data of power station and devices on the embedded WebUI in tables and curves
- Convenient maintenance
  - Allows users to upgrade the firmware of the SmartLogger and inverters and export data by using a USB flash drive.
  - Allows users to upgrade the firmware of the SmartLogger, view operation dates, and export data on the embedded WebUI.
- Grid dispatching

  Supports power grid scheduling: the active power reduction and reactive power compensation.
- Automatic device identification

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Automatically scans and connects to the inverters.

- Automatic address assignment

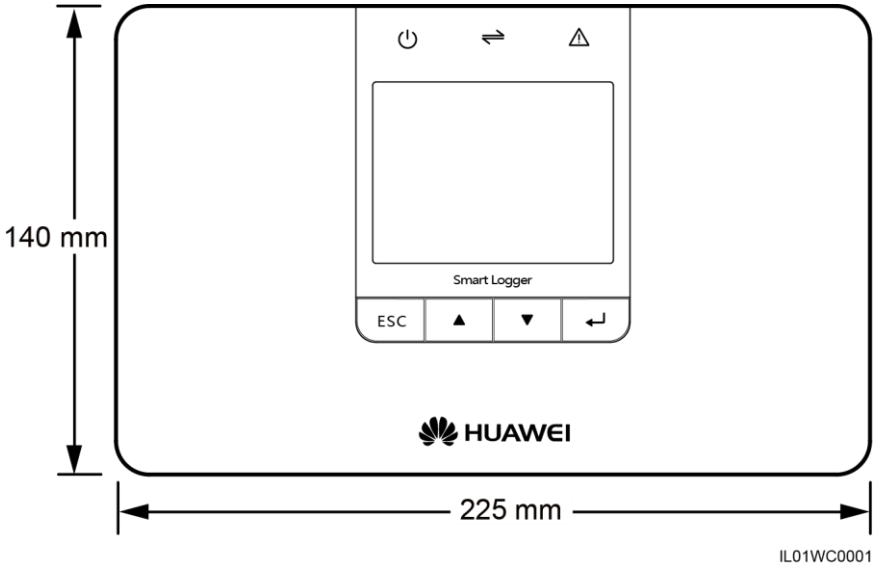
  An RS485 address can be automatically assigned to the connected inverter over the SmartLogger, facilitating remote configuration and maintenance.

- Remote maintenance
  - Manages all devices connected to the SmartLogger over the NetEco in remote mode.
  - Allows users to access a third-party element management system (EMS) over File Transfer Protocol (FTP).
  - Sends energy yield and fault information to users by emails.

2.2 Appearance

This topic describes the SmartLogger in terms of its appearance and specifications.

Front View of the Shell



NOTE

The LCD on the SmartLogger monitoring panel displays information about the power site, devices, alarms, and products. This topic describes how to set parameters and maintain devices over the monitoring panel.

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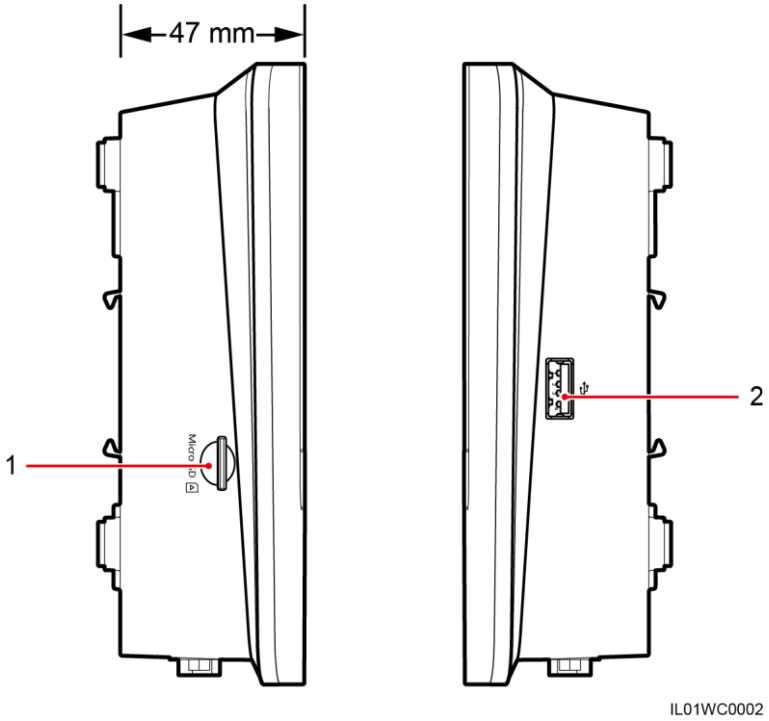
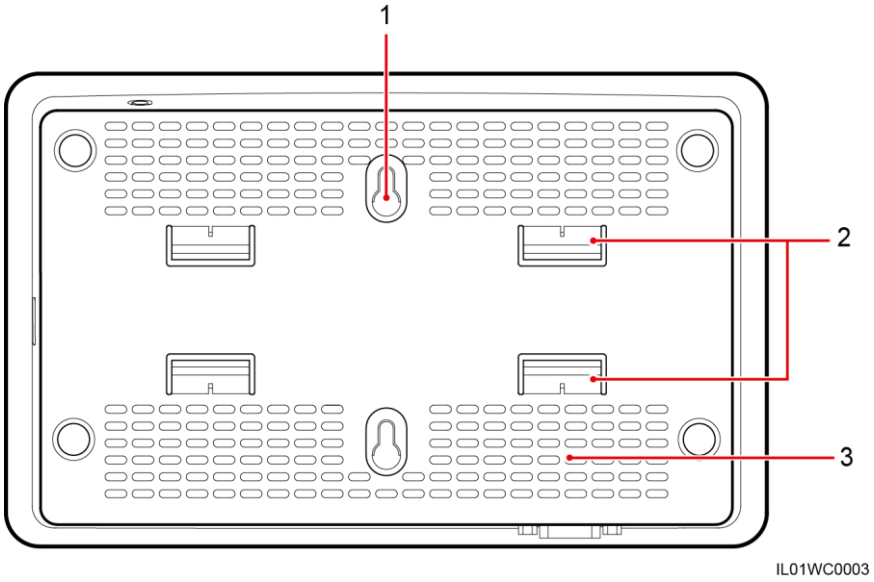
Side View of the shell



1. SD card slot
2. USB port

Rear View of the Shell



1. Mounting hole
2. Rail snap
3. Heat dissipation hole

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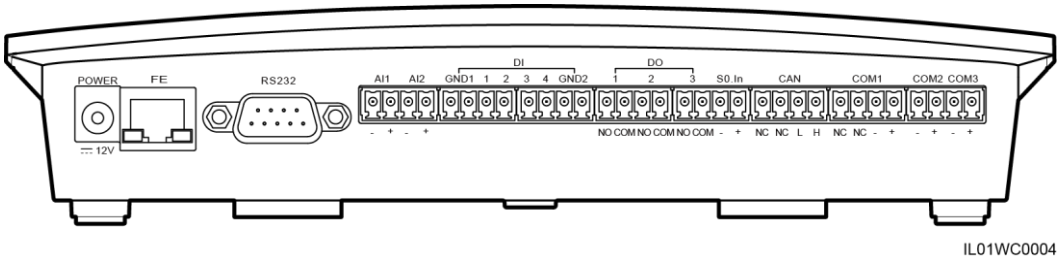
Bottom of the Shell



The following table describes functions of each port of the SmartLogger, as shown in Table 2-1.

Table 2-1 Port description

Port	Function	Description
POWER	Power supply	12 V DC.
FE	Ethernet	Connects to PC or routers.
RS232	RS232	Connects to external RS232 devices (reserved).
AI	Analog input	12 V current-type signal (reserved).
DI	Digital parameter input	Connects to the power grid scheduling signal controlled by dry contacts.
DO	Digital parameter output	Relay output.
S0.In	Connects to pulse output power meters.	Reserved.
CAN	CAN	Reserved.
COM1–COM3	RS485	Supports three RS485 ports and connects to inverters and environmental monitoring instruments. **NOTE** A maximum of 20 devices can connect to one RS485 port.

2.3 Monitoring Panel

This topic describes the monitoring panel, including an LCD, indicators, buttons, and the default page.

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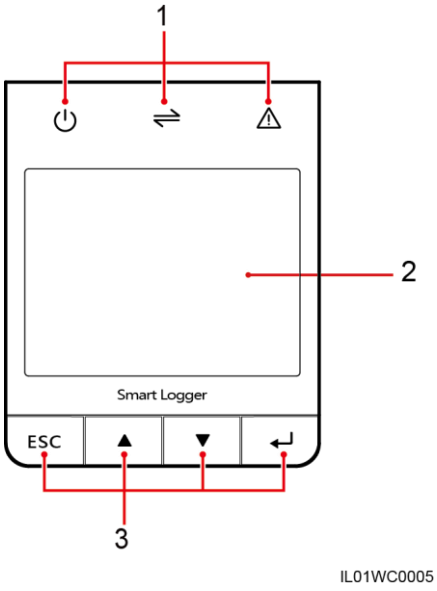
Monitoring panel

The monitoring panel provides one LCD, three indicators, and four buttons, as shown in Figure 2-2.

Figure 2-2 Monitoring panel



1. Indicator 2. LCD 3. Button

Indicators

There are three indicators on the monitoring panel. They are Power indicator, Run indicator, and Alarm indicator from left to right.

Table 2-2 describes the indicators.

Table 2-2 Indicator description

Indicator	Status	Meaning
Power indicator	Steady green	The power supply is normal.
	Off	There is no power supply.
Run indicator	Blinking green (on for 1s and then off for 1s)	The SmartLogger is working.
	Off	The SmartLogger stops working.
Alarm indicator	Steady red	The inverter connected to the SmartLogger generates a major alarm. For details about the alarm, see 6.2.5 Querying Alarm Records.

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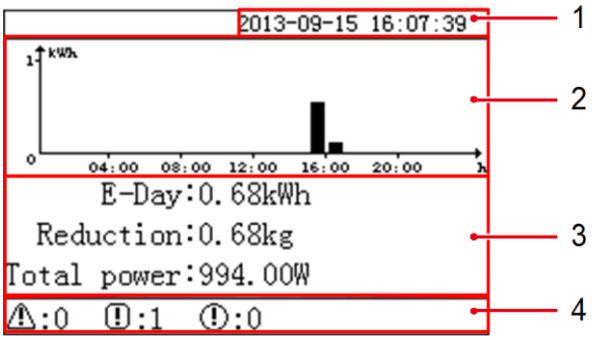
Indicator	Status	Meaning
	Blinking red (on for 0.5s and then off for 0.5s)	The inverter connected to the SmartLogger generates a minor alarm. For details about the alarm, see 6.2.5 Querying Alarm Records.
	Blinking red (on for 1s and then off for 4s)	The inverter connected to the SmartLogger generates a warning. For details about the warning, see 6.2.5 Querying Alarm Records.
	Off	The inverter connected to the SmartLogger is working normally.

LCD

The LCD displays data in graphics and text, including the information about the site, devices, alarms and products. Users can also set parameters and maintain devices on the LCD.

If you do not press any button within 90s on a non-default page, the LCD returns to the default page automatically, as shown in Figure 2-3.

Figure 2-3 Default page



1. Date and time	Allows you to view the date and time.
2. Energy production histogram	Allows you to view the total energy production in each hour by all the inverters connected to the SmartLogger.
3. Energy production data	• Allows you to view the total energy production from 0:00 to the current time by all the inverters connected to the SmartLogger. • Allows you to view the emission reduction of CO_2 corresponding to the energy yield of the current day. • Allows you to view the total output power by all the online inverters

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	connected to the SmartLogger at the present.
4. Status information	Allows you to view the number of the major alarms, minor alarms, and warnings of all the inverters connected to the SmartLogger. When remote grid dispatching is enabled, you can view the current status of grid dispatching.

Buttons

There are four buttons on monitoring panel. They are the Return button, Cursor Up button, Cursor Down button, and Confirm button from left to right.

Table 2-3 describes the button functions.

Table 2-3 Button description

Buttons	Name	Functions
ESC	Return button	Allows you to return to the last page or end an operation.
▲	Cursor Down button	Allows you to go to the upper-level menu or set parameters.
▼	Cursor Up button	Allows you to go to the lower-level menu or set parameters.
↵	Confirm button	Allows you to go to the menu or confirm the value.

NOTE
The backlight lasts 120s after you press any button.

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3 Installation

About This Chapter

This topic describes how to install the SmartLogger.

Context

Install the SmartLogger in an appropriate position and surface.

DANGER

- Do not store the SmartLogger in areas with flammable or explosive materials.
- Do not install the SmartLogger on flammable building materials.

3.1 Installation Process

This topic describes the SmartLogger installation process.

3.2 Checking Before Installation

Before unpacking, check that the outer packing materials are intact. After unpacking, check that deliverables are complete and intact.

3.3 Preparing Tools

Prepare tools required for installation and electrical connections.

3.4 Determining the Installation Position

Before installing the SmartLogger, determine an appropriate position to ensure that the SmartLogger works properly.

3.5 Installing the SmartLogger

The SmartLogger can be installed on a desk, on a wall, or along a guide rail.

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3.1 Installation Process

This topic describes the SmartLogger installation process.

The SmartLogger installation process is shown in Figure 3-1.

Figure 3-1 Installation flowchart

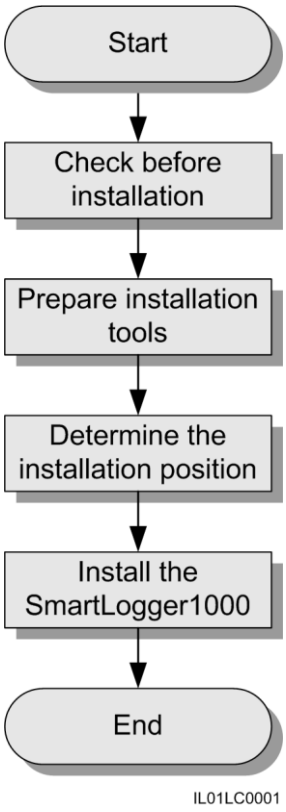

Table 3-1 describes the installation process.

Table 3-1 Description of the installation process

Step	Operation	Description
1	Checking Before Installation	Before unpacking, check that the outer packing materials are intact. After unpacking, check that deliverables are complete and intact.
2	Preparing Tools	Prepare tools required for installation and electrical connections.
3	Determine the installation position.	Before installing the SmartLogger, determine an appropriate position to ensure that the SmartLogger works properly.
4	Installing the SmartLogger	The SmartLogger can be installed on a desk, a wall or along a guide rail.

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3.2 Checking Before Installation

Before unpacking, check that the outer packing materials are intact. After unpacking, check that deliverables are complete and intact.

Checking Outer Packing Materials

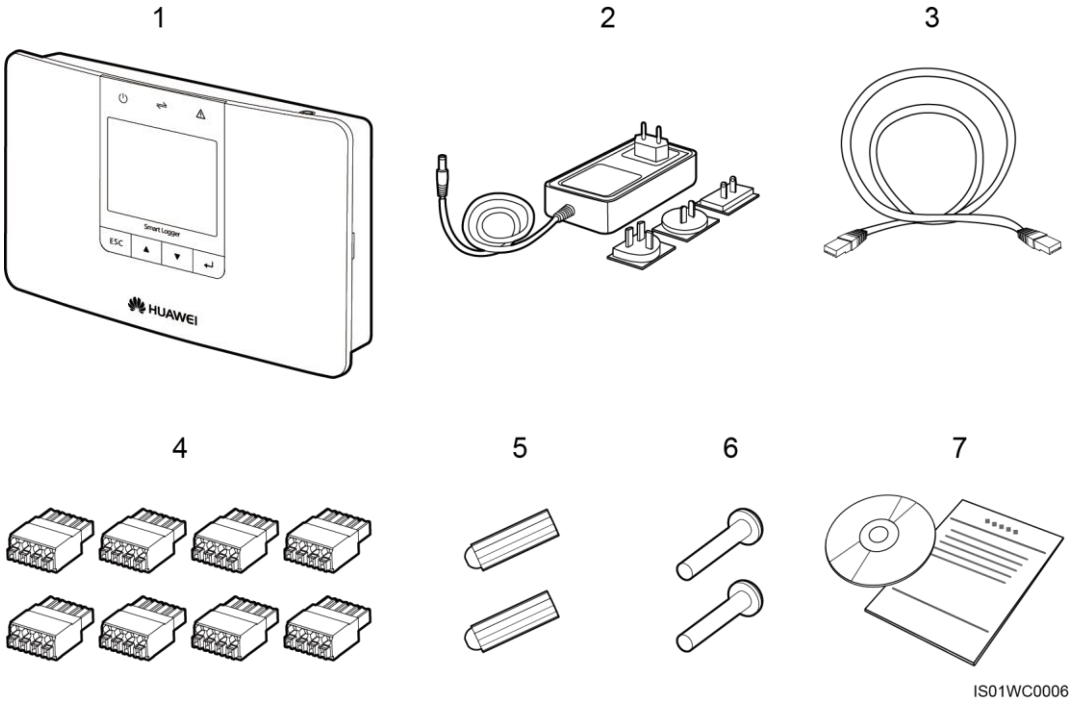
Check the outer packing materials for damage before unpack the SmartLogger, such as holes and cracks. If any damage is found, do not unpack the SmartLogger and contact the dealer as soon as possible.

Checking Deliverables

After unpacking the SmartLogger, check whether deliverables are intact and complete. If any damage is found or any component is missing, contact the dealer.

Figure 3-2 shows the components and mechanical parts that should be delivered.

Figure 3-2 Deliverables



No.	Quantity	Description
1	1	SmartLogger
2	1	Adapter (adapter type depends on the country specified in the order)
3	1	Network cable (2.2 meters long)
4	8	Terminal block
5	2	Expansion tube

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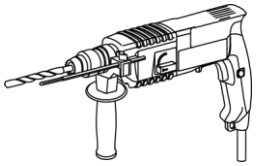
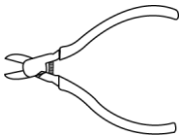
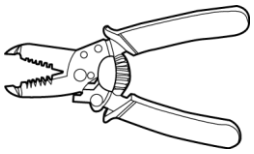
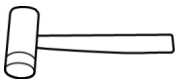
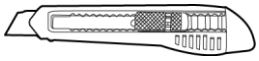
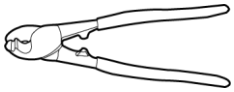
No.	Quantity	Description
6	2	Screws (used to secure the SmartLogger to the wall)
7	1	Auxiliary documents (including the quick installation guide in paper copies and user manual in CD-ROM)

3.3 Preparing Tools

Prepare tools required for installation and electrical connections.

Tools	Model	Function
Hammer drill 	Φ6 drill bit	Drills holes in the wall when the SmartLogger is wall-mounted.
Diagonal pliers 	-	Cuts and tighten cable ties.
Wire stripper 	-	Peels cable jackets.
Rubber mallet 	-	Hammers expansion bolts into holes.
Guarded blade utility knife 	-	Removes package.
Cable cutter 	-	Cuts cables.
Vacuum cleaner	-	Cleans up dust after holes are drilled.

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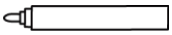
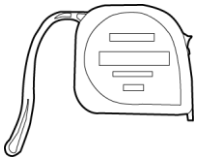
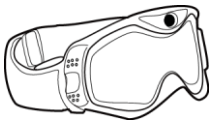
Tools	Model	Function
Marker 	Diameter: ≤ 10 mm	Marks signs.
Measuring tape 	-	Measures distance
Plumb line	-	Ensures that the screws are perpendicular to the wall.
Safety goggles 	-	Protect your eyes during hole drilling.
Anti-dust respirator	-	Prevents dust from entering your mouth and nostrils during hole drilling.

3.4 Determining the Installation Position

Before installing the SmartLogger, determine an appropriate position to ensure that the SmartLogger works properly.

Comply with the following requirements when determining the installation position for the SmartLogger:

- Do not install the SmartLogger outdoors because it is protected to IP20.
- Install the SmartLogger in a dry environment to protect it against water.
- The ambient temperature should range from -20 ℃ to +60 ℃.
- The communication distance for the RS485 port should be less than 1000 m and for the Ethernet less than 100 m.
- Install the SmartLogger at an appropriate height for the user's ease to view and operate on the monitoring panel.

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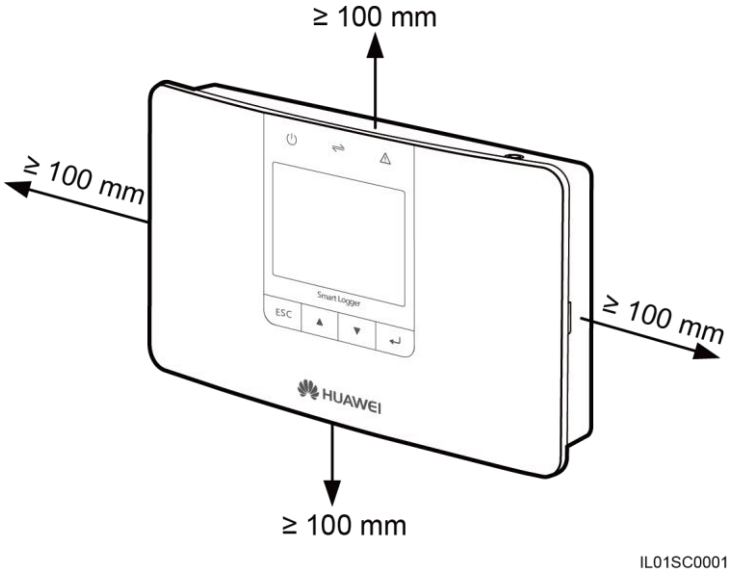
- Do not place the SmartLogger upside down. Ensure that the heat dissipation holes are facing upwards, preventing dust from entering the SmartLogger and reducing its service life.
- Choose appropriate installation method and position for the Smart Logger according to its weight and size. For details, refer to 10 Technical Specifications.
- If you install the SmartLogger on a wall or along a guide rail, the area for connecting cables should be downwards.
- The SmartLogger is at least 100 mm away from the neighboring objects on both sides, the top side, and the bottom side respectively, as shown in Figure 3-3.

Figure 3-3 Minimum installation clearance



3.5 Installing the SmartLogger

The SmartLogger can be installed on a desk, on a wall, or along a guide rail.

3.5.1 Installing the SmartLogger on a Desk

This topic describes how to install the SmartLogger on a desk.

Context

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NOTICE

- Ensure that the desk on which the SmartLogger is installed is horizontal to prevent it from falling down.
- Install the SmartLogger in places where cables cannot be easily touched to avoid signal disruption.

Procedure

Step 1 Take the SmartLogger out from the package.

Step 2 Place the SmartLogger onto a horizontal desk.

----End

3.5.2 Mounting the SmartLogger on a Wall

This topic describes how to mount the SmartLogger on a wall.

Context

NOTICE

- Before hanging the SmartLogger on the screws, secure the expansion tubes and screws into the wall.
- Install the SmartLogger on a solid and smooth wall to ensure that it can be secured on the wall.

Procedure

Step 1 Install the expansion tubes and screws.

NOTICE

If you need to use a ladder to install the SmartLogger on a high position, keep balance to protect yourself from falling down.

1. Use a plumb line to ensure that the line between the centric points of the two holes is vertical to the ground. Use a marker to mark out the holes, as shown in Figure 3-4.

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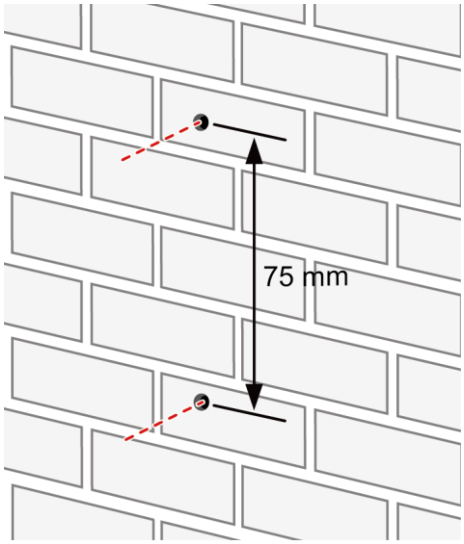
Figure 3-4 Hole positions and dimensions



2. Drill holes using a hammer drill and install expansion tubes and screws, as shown in Figure 3-5.

Figure 3-5 Drilling a hole and installing an expansion tubes and screws

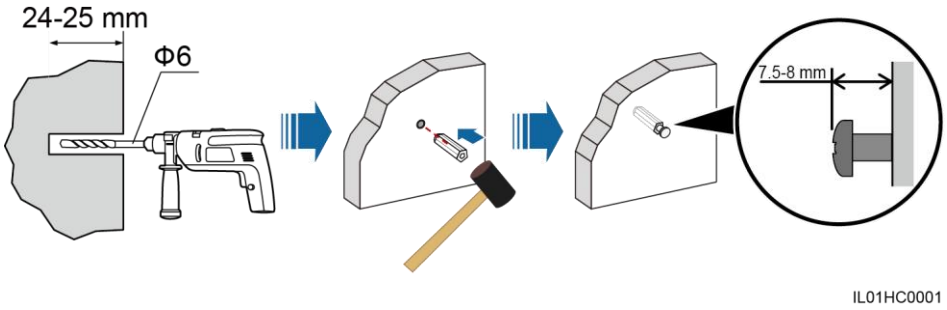


Table 3-2 describes the operations shown in Figure 3-5.

Table 3-2 Drilling a hole and installing an expansion tubes and screws

Step	Operation
1	Put a hammer drill with a Φ6 drill bit on a marked hole position perpendicularly against the wall and drill holes with a depth of 24 mm to 25 mm. **NOTICE** • To prevent dust inhalation or contact with eyes, wear safety goggles and an anti-dust respirator when drilling holes. • Wipe away any dust in or around the holes and measure the hole distance. If the holes are inaccurately positioned, drill holes again.
2	Vertically insert an expansion tube into a hole, and knock it completely into the hole by using a rubber mallet.

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Step	Operation
3	Insert the screws into the expansion tube until the screw heads are 7.5 mm to 8 mm away from the wall.

Step 2 Hang the SmartLogger onto the secured screws by the mounting holes on the rear of the SmartLogger.

NOTICE

Ensure that the area for connecting cables in the SmartLogger is downwards for the ease of electrical connections and maintenance.

----End

3.5.3 Mounting the SmartLogger Along a Guide Rail

This topic describes how to mount the SmartLogger along a guide rail.

Context

The guide rails are not delivered together with the SmartLogger. If you need to mount the SmartLogger along a guide rail, prepare a 35 mm wide guide rail.

NOTICE

- Choose a guide rail with appropriate lengths to ensure that the SmartLogger can be secured along it.
- Secure the guide rail before mounting the SmartLogger.

Procedure

Step 1 Hold both sides of the SmartLogger, keep it parallel with the guide rail, and then tilt it slightly to insert its upper hooks into the guide rail, as shown in Figure 3-6.

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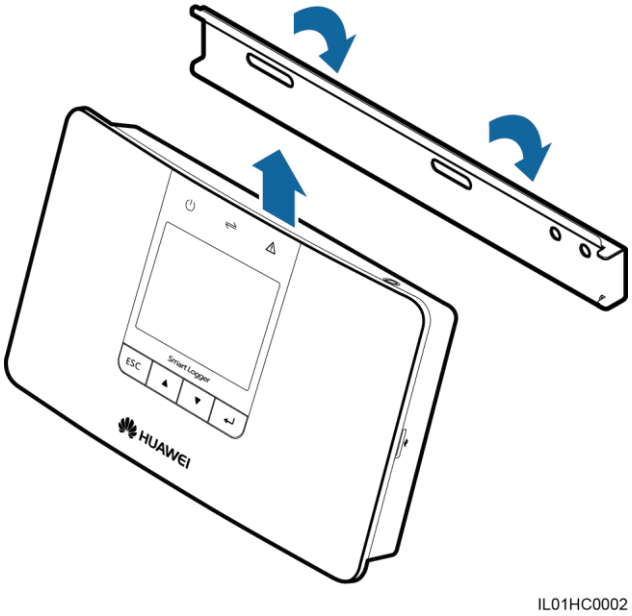
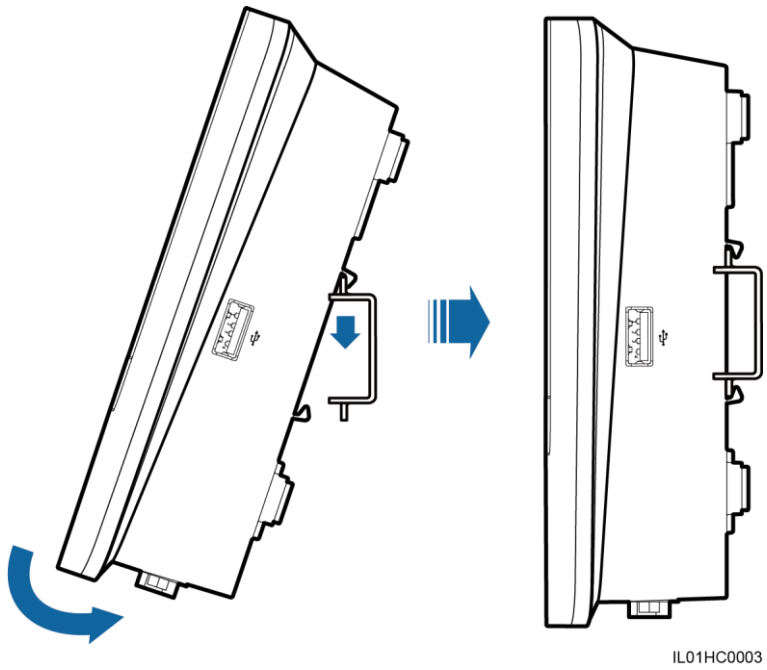
Figure 3-6 Mounting the SmartLogger Along a guide rail (1)



Step 2 Hold the two lower corners of the SmartLogger, pull it downwards appropriately, and then push it towards the guide rail. When you hear a click sound, the SmartLogger is successfully mounted along the guide rail, as shown in Figure 3-7.

Figure 3-7 Mounting the SmartLogger along a guide rail (2)



----End

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4 Electrical Connections

About This Chapter

This topic describes how to connect the SmartLogger to the inverters, environmental monitoring instrument, and PCs.

Context

NOTICE

- Ensure that all cables are connected and secured.
- Do not connect a power adapter to the SmartLogger before the cable connections are complete because the SmartLogger has no startup button.

4.1 Port Description

This topic describes the functions of ports in the SmartLogger.

4.2 Connecting the SmartLogger to Inverters

This topic describes how to connect the SmartLogger to inverters.

4.3 Connecting the SmartLogger to an EMI

This topic describes how to connect the SmartLogger to an environmental monitoring instrument.

4.4 Connecting the SmartLogger to a PC

This topic describes how to connect the SmartLogger to a PC.

4.5 Connecting the SmartLogger to a Ripple Control Receiver

This topic describes how to connect the SmartLogger to a ripple control receiver.

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4.1 Port Description

This topic describes the functions of ports in the SmartLogger.

For the bottom view of the SmartLogger and port description, see Bottom of the Shell in 2.2 Appearance.

4.2 Connecting the SmartLogger to Inverters

This topic describes how to connect the SmartLogger to inverters.

4.2.1 Connecting the SmartLogger to the SUN2000

This topic describes how to connect the SmartLogger to the SUN2000.

Context

The RS485 communications port for the SUN2000 is an RJ45 port, which is connected over a crystal plug, as shown in Figure 4-1.

Figure 4-1 RS485 crystal plug of the SUN2000 (side view without the fastener)

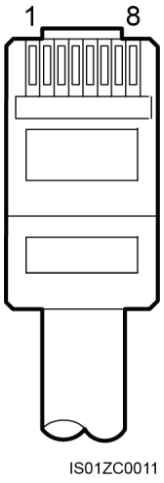

Table 4-1 lists the cable colors and functions.

Table 4-1 Cable colors and functions

Category	Color	Function
1	White and orange	RS485A, RS485 differential signal +
2	Orange	RS485B, RS485 differential signal -
3	White and green	PGND
4	Blue	RS485A, RS485 differential signal +
5	White and blue	RS485B, RS485 differential signal -

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Category	Color	Function
6	Green	PGND
7	White and brown	PGND
8	Brown	PGND

There are three COM ports for the RS485 communications of the SmartLogger, as shown in Figure 4-2.

Figure 4-2 COM ports on the SmartLogger

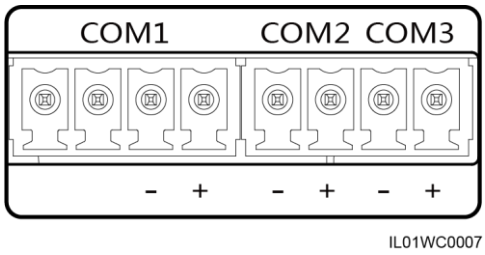

Table 4-2 describes the definition of the COM ports.

Table 4-2 COM port description

Port	Identifier	Function
COM1 port	NC	Reserved
	NC	Reserved
	-	RS485B, RS485 differential signal -
	+	RS485A, RS485 differential signal +
COM2 port	-	RS485B, RS485 differential signal -
	+	RS485A, RS485 differential signal +
COM3 port	-	RS485B, RS485 differential signal -
	+	RS485A, RS485 differential signal +

Figure 4-3 shows how to connect the SmartLogger to the SUN2000.

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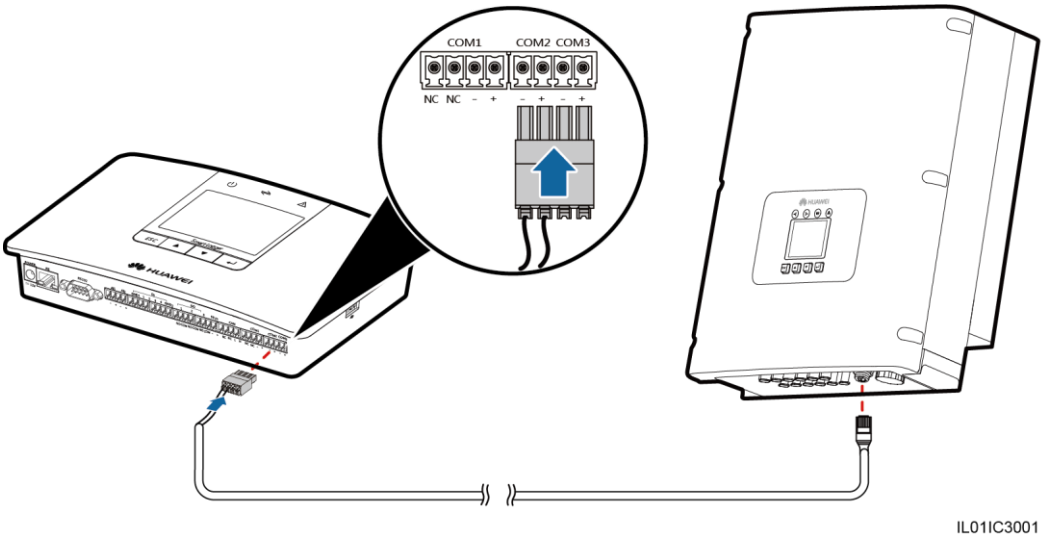
Figure 4-3 Connecting the SmartLogger to the SUN2000



Procedure

Step 1 Obtain a shielded network cable with an appropriate length. Crimp the crystal plug to one of its ends and then connect the end to the RS485 port in the SUN2000.

- Recommended communications cable model: CAT 5E outdoor shielded network cable.
- For details about how to connect the crystal plug to one end of the cable, see the *SUN2000 (8KTL-20KTL) User Manual*.

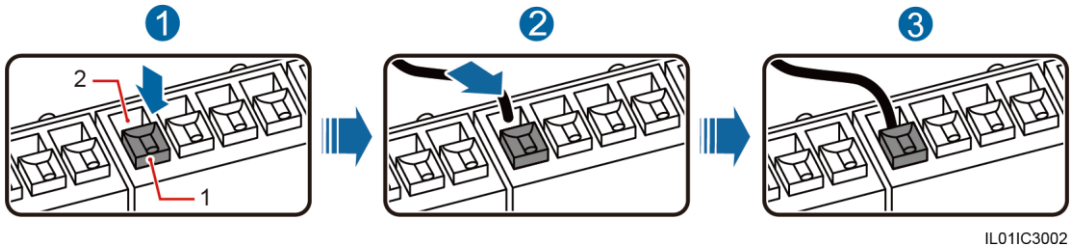
Step 2 Use a cable peeler to peel off 15 mm long of the external insulation layer on the other end of the shielded network cable.

Step 3 Use a cable peeler to peel off 10 mm long of the internal insulation layer on the white-orange (or blue) core wire and the orange (or white-blue) core wire. And cut off 15 mm long of the other six core wires.

Step 4 Connect cables to the terminal block.

Ensure that the white-orange (or blue) core wire connects to the wiring terminal that connects to the COM+ port and that the orange (or white-blue) core wire connects to the wiring terminal that connects to the COM- port.

Figure 4-4 Connecting cables to the terminal block



1. White contact plate
2. Wiring terminal

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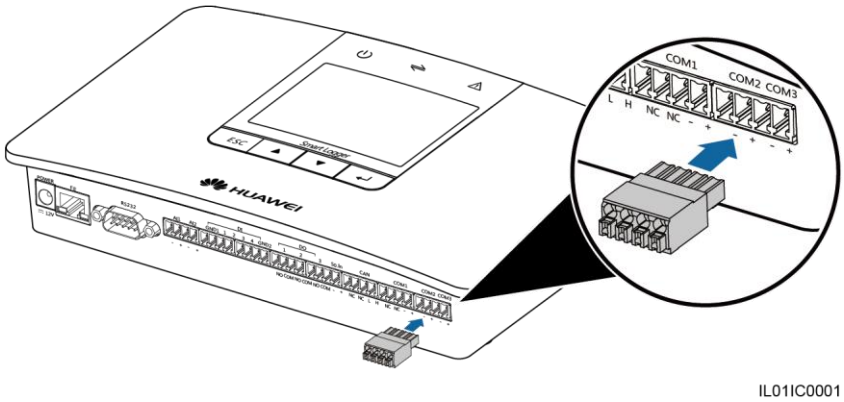
Figure 4-4 describes the operations shown in Table 4-3.

Table 4-3 Connecting cables to the terminal block

Step	Operation
1	Press the white contact plate to flip the metal spring inside the wiring terminal.
2	Insert the uninsulated parts of the core wires into the wiring terminals.
3	Let go the white contact plate to fasten the core wire.

Step 5 Connect the terminal block to the COM port on the SmartLogger, as shown in Figure 4-5.

Figure 4-5 Connecting the terminal block to the SmartLogger



Step 6 Ensure that the cable is correctly connected and secured. Set **Baud rate** for the SUN2000 and the SmartLogger and ensure that the parameters for these two devices are consistent.

- For details about how to set the communications parameters for the SmartLogger, see 6.2.10 Setting Communications Parameters.
- For how to set the communications parameters for the SUN2000, see the *SUN2000 (8KTL-20KTL) User Manual*.

----End

Follow-up Procedure

Take operations in reversed order to disconnect the SmartLogger from the SUN2000.

4.2.2 Connecting the SmartLogger to the SUN8000

This topic describes how to connect the SmartLogger to the SUN8000.

Context

Figure 4-6 shows the RS485 wiring terminals of the SUN8000.

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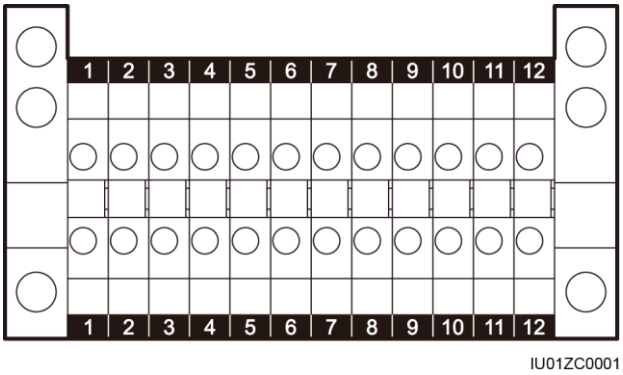
Figure 4-6 RS485 wiring terminals for the SUN8000



Ports 07, 08, 09, 10, 11, and 12 are communications ports. Table 4-4 describes the functions of these ports.

Table 4-4 Port description

No.	Function	Description
07	S485A	RS485A, RS485 differential signal + (reserved)
08	S485B	RS485B, RS485 differential signal - (reserved)
09	N485A_OUT	RS485A, RS485 differential signal +
10	N485A_IN	RS485A, RS485 differential signal +
11	N485B_OUT	RS485B, RS485 differential signal -
12	N485B_IN	RS485B, RS485 differential signal -

There are three RS485 ports in the SmartLogger. For the port descriptions, see **Context** in 4.2.1 Connecting the SmartLogger to the SUN2000.

Figure 4-7 shows how to connect the SmartLogger to the SUN8000.

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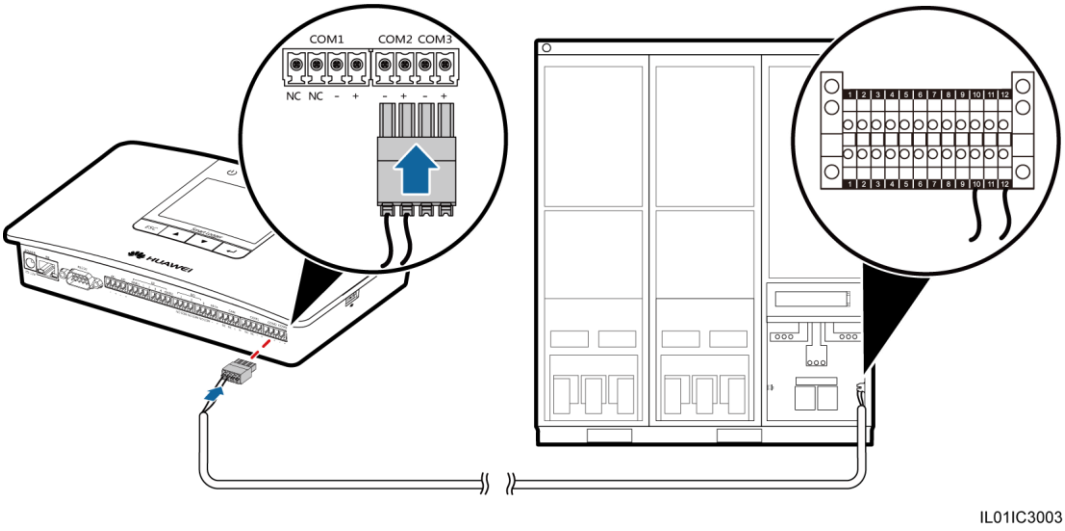
Figure 4-7 Connecting the SmartLogger to the SUN8000



Procedure

Step 1 Configure a shielded network cable with an appropriate length. Connect two core wires of the cable to the N485A_IN and N485B_IN ports of the RS485 port for the SUN8000.

- Recommended communications cable: dual-core shielded network cable (outdoor shielded network cables are also acceptable, if only two core wires are connected).
- For details about connecting the RS485 ports for the SUN8000, see the *SUN8000-500KTL User Manual*.

Step 2 Use to a cable peeler to peel off 15 mm long of the external insulation layer on the dual-core shielded network cable.

Step 3 Use to a cable peeler to peel off 10 mm long of the internal insulation layer on the two core wires of the shielded network cable.

Step 4 After connecting the core wires to the terminal block, connect the terminal block to the SmartLogger. For details, see Step 4 and Step 5 in 4.2.1 Connecting the SmartLogger to the SUN2000.

Insure that the core wire connected to the SUN8000 N485A_IN connects to the COM+ port and that the core wire connected to the SUN8000 N485B_IN connects to the COM- port.

Step 5 Ensure that the cable is correctly connected and secured. Set **Baud rate** for the SUN8000 and the SmartLogger and ensure that the parameters for these two devices are consistent.

- For details about how to set the communications parameters for the SmartLogger, see 6.2.10 Setting Communications Parameters.
- For how to set the communications parameters for the SUN8000, see the *SUN8000-500KTL User Manual*.

----End

Follow-up Procedure

Take operations in reversed order to disconnect the SmartLogger from the SUN8000.

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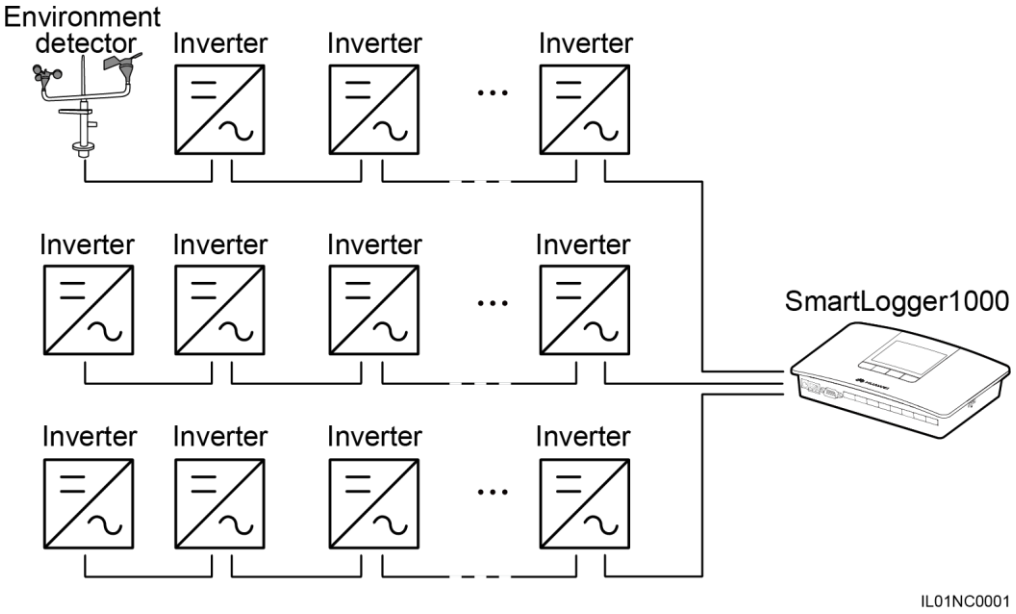
4.2.3 Connecting Multiple Inverters to the SmartLogger

This topic describes how to connect the SmartLogger to multiple inverters.

Connect the SmartLogger to multiple inverters in daisy chain, that is, first connect the RS485IN port of one inverter to the RS485OUT port of another inverter and then connect the first inverter to the SmartLogger, as shown in 4.2.1 Connecting the SmartLogger to the SUN2000 or 4.2.2 Connecting the SmartLogger to the SUN8000. Figure 4-8 shows the daisy chain connecting the SmartLogger and multiple inverters.

Figure 4-8 Connecting Multiple Inverters to the SmartLogger



NOTE

- A maximum of 20 devices are in one daisy chain.
- If an environmental monitoring instrument is to be connected, connect it at the end of the chain. Set the address for the environmental monitoring instrument to 1.
- Set **Match Resistance** of every inverter at the end of the daisy chain to **Connect** in **Comm. Param.** (For details about this, see the *SUN2000 (8KTL-20KTL) User Manual*.
- The addresses for all devices in the daisy chain should be within the searching scope set in the SmartLogger and they must differ from each other. Otherwise, the communications would fail between the device and the SmartLogger.
- If the firmware version of the SUN2000 is later than V100R001C11SPC010, you can assign addresses on the SmartLogger instead of on the inverter.
- **Baud rate** of all the devices in one daisy chain should stay consistent with those of the SmartLogger.

4.3 Connecting the SmartLogger to an EMI

This topic describes how to connect the SmartLogger to an environmental monitoring instrument.

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Context

Connect the SmartLogger to an EMI that complies with the standard MODBUS/485 protocol. The SmartLogger can connect to and manage only one EMI at a time.

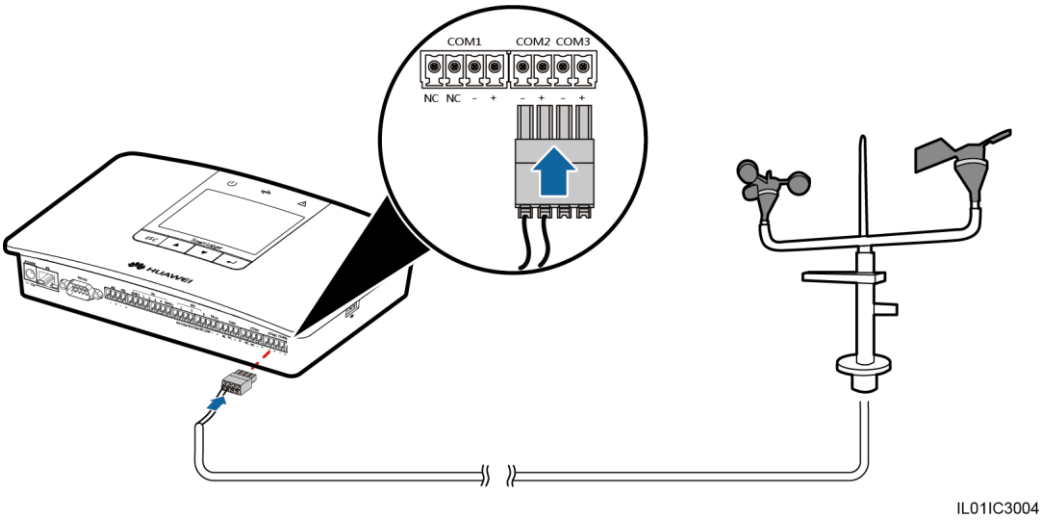
The protocol points for EMIs provided by different vendors are varied. Therefore, to obtain information from an EMI, configure the protocol point on the WebUI of the SmartLogger properly based on the document delivered by the vendor.

For details about the definition of the RS485 communications cables for the EMI, see the operation manual delivered with the EMI.

There are three RS485 ports in the SmartLogger. For details about the port descriptions, see **Context** in 4.2.1 Connecting the SmartLogger to the SUN2000.

Figure 4-9 shows how to connect the SmartLogger to the EMI.

Figure 4-9 Connecting the SmartLogger to an EMI



Procedure

Step 1 Connect one end of the shielded network cable delivered together with the EMI to the RS485 port.

Step 2 Connect the other end to the COM port in the SmartLogger. For details about the operation, see the **Procedure** in 4.2.1 Connecting the SmartLogger to the SUN2000.

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NOTICE

- Connect the RS485+ port of the EMI to the COM+ port of the SmartLogger and the RS485- port of the EMI to the COM- port of the SmartLogger.
- After connecting the cable, log in to the WebUI and set parameters under **Environmental Monitoring Instrument**. For details about this operation, see 7.24 Setting EMI Parameters.
- The EMI cannot be detected automatically. You need to add this device manually. For details about this operation, see 6.2.14 Managing Devices.
- When the SmartLogger is connected to an EMI and multiple inverters at the same time, connect the EMI to the end of the daisy chain. For details, see 4.2.3 Connecting Multiple Inverters to the SmartLogger.

----End

Follow-up Procedure

Take operations in reversed order to disconnect the SmartLogger from the EMI.

4.4 Connecting the SmartLogger to a PC

This topic describes how to connect the SmartLogger to a PC.

Procedure

Step 1 Connect one end of the network cable delivered together with the SmartLogger to its **FE** port.

NOTE

If the delivered network cable is shorter than the required length, note the following when preparing network cable:

- Choose CAT 5E or above shielded network cables.
- It is suggested that the cable length is less than or equal to 100 meters.

Step 2 Connect the other end to the network port of the PC, as shown in Figure 4-10.

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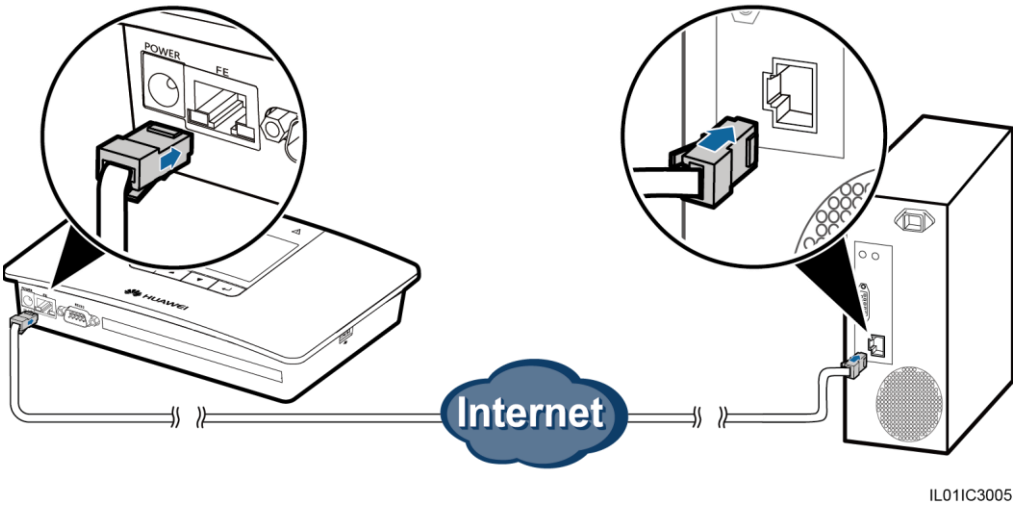
Figure 4-10 Connecting the SmartLogger to a PC



NOTE

The default IP address for the SmartLogger is 192.168.0.10; its default subnet mask is 255.255.255.0; its gateway is 192.168.0.1.

- If the SmartLogger connects to the PC directly or through a Hub, set their IP addresses to be in the same network segment. For example, if the IP address for the SmartLogger is 192.168.0.10, the IP address for the PC can be 192.168.0.11. The subnet mask and the gateway of the PC should stay consistent with those of the SmartLogger.
- If the SmartLogger connects to the PC through a network device (for example, a router), set the IP addresses for the SmartLogger and network device to be in the same network segment. Correctly set the gateway of the SmartLogger to ensure that the SmartLogger can normally communicate with the network device.
- To enable communication between the SmartLogger and the NetEco on the PC, set the NetEco parameters properly. For details, see 6.2.10 Setting Communications Parameters.

----End

Follow-up Procedure

Take operations in reversed order to disconnect the SmartLogger from the PC.

4.5 Connecting the SmartLogger to a Ripple Control Receiver

This topic describes how to connect the SmartLogger to a ripple control receiver.

Context

In Germany and some European areas, a ripple control receiver is used to convert a power grid scheduling signal to a dry contact signal, in which a dry contact is required.

Figure 4-11shows the DI ports on the SmartLogger.

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Figure 4-11 DI ports in the SmartLogger

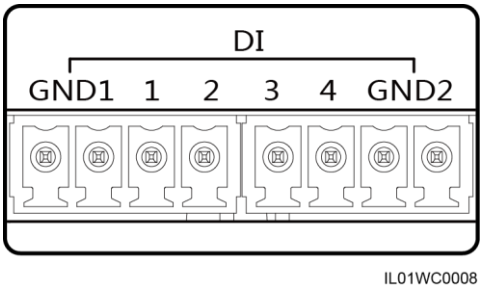


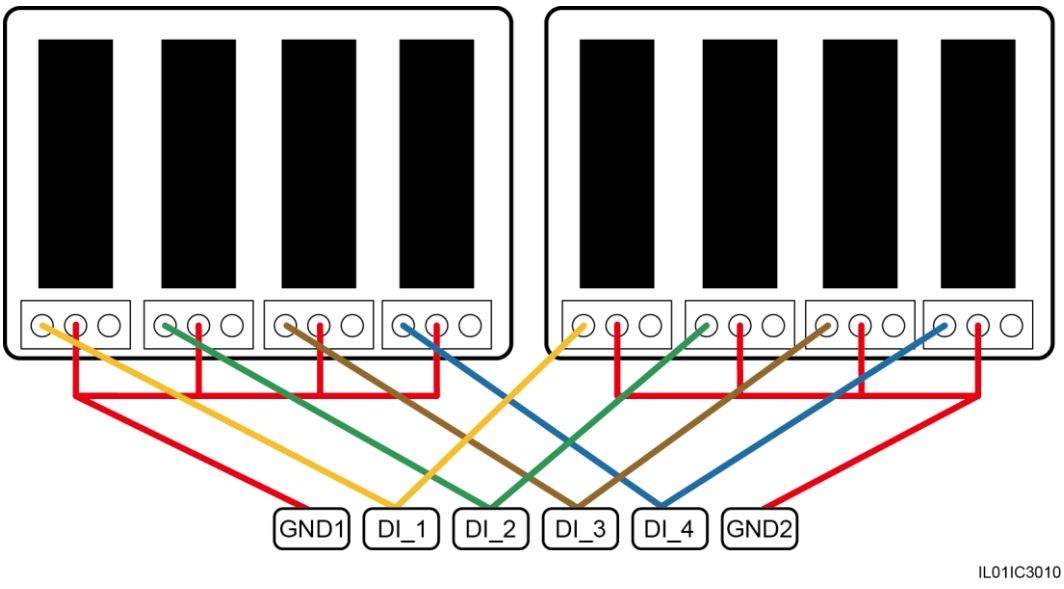
Table 4-5 describes the definition of the DI ports.

Table 4-5 DI port description

Port	Functions
GND1	Active power reduction
1	DI_1
2	DI_2
3	DI_3
4	DI_4
GND2	Reactive power compensation

Figure 4-12 shows how to connect the Smart Logger to the ripple control receiver.

Figure 4-12 Connecting the SmartLogger to a Ripple Control Receiver



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NOTICE

When active power remote control and reactive power remote control are supported, only one out of the four outputs of each ripple control receiver can be closed

Procedure

Step 1 Select a cable of appropriate length and connect one end of a cable to the ripple control receiver.

Step 2 Connect the other end to the DI port in the SmartLogger. For details about the operation, see **Procedure** in 4.2.1 Connecting the SmartLogger to the SUN2000.

NOTICE

To enable a normal power grid scheduling function, you need to set the corresponding parameters (Active Power Control or Reactive Power Control) on the embedded WebUI. For details, see 7.29.1 Active Power Control or 7.29.2 Reactive Power Control.

----End

Follow-up Procedure

Take operations in reversed order to disconnect the SmartLogger from the ripple control receiver.

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5 System Operation

About This Chapter

This topic describes how to start the SmartLogger and set the initialization parameters.

5.1 Power-on Process

This topic describes how to check the SmartLogger before power-on and how to power on the SmartLogger.

5.2 Setting Initialization Parameters

When starting the SmartLogger for the first time, set initialization parameters on the monitoring panel. The initialization parameters include system language, system time, the search address segment for the RS485 port, and the Ethernet parameters.

5.1 Power-on Process

This topic describes how to check the SmartLogger before power-on and how to power on the SmartLogger.

Checking Before Powering On the SmartLogger

Check and ensure the following before powering on the SmartLogger.

- All cables are intact and well insulated.
- All cables are of proper size.
- All cables are correctly connected and secured.

Power-on Process

Power on the devices in the following sequence: Inverter > SmartLogger > PC terminal.

NOTE
The PC terminal refers to a PC where the NetEco1000 is installed.

Step	Operation
1	Perform the requirements mentioned in Checking Before Powering On the

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Step	Operation
	SmartLogger.
2	Start the inverter and correctly set the communications parameters (including **Address**, and **Baudrate**) on the monitoring panel. For details about how to set the communications parameters, refer to **Setting Communications Parameters** in the *SUN2000 (8KTL-20KTL) User Manual* and *SUN8000-500KTL User Manual*.
3	Connect the output terminal of the power adapter for the SmartLogger to the power port **POWER** and the input terminal to the AC socket.
4	Set the search address segment and baud rate for the RS485 port on the SmartLogger monitoring panel. If the SmartLogger is powered on for the first time, set the search address segment and baud rate for the RS485 port in the Wizard, as shown in 5.2 Setting Initialization Parameters. If it is not powered on for the first time, set the parameters in the **Comm. Param.** under the **Settings**, as shown in 6.2.10 Setting Communications Parameters.
5	Wait for the SmartLogger to search for inverters. After the search is completed, the SmartLogger automatically connects to all inverters. Alternatively, you can skip this operation and manually search for, add, or delete inverters in follow-up operations. For details, see 6.2.14 Managing Devices.
6	(Optional) Add the environmental monitoring instrument manually. For details, see 6.2.14 Managing Devices. **NOTICE** Before you add the EMI manually, log in to the WebUI and set related parameters. For details, see 7.24 Setting EMI Parameters.
7	(Optional) Start the PC terminal and set Ethernet and NetEco parameters on the SmartLogger.

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NOTICE

- When starting the SmartLogger, use only the 12 V power adapter shipped along with the shell. If adapters of other models are used, the SmartLogger may be damaged.
- Log into the SmartLogger on the monitoring panel. When you log in to the **Settings** page or **Maintenance** page, an identity authentication is required. The initial password is *000001*. Change the password as soon as possible to ensure the security of the user account. For details about how to change the password, refer to 6.2.9 Changing a Password.

5.2 Setting Initialization Parameters

When starting the SmartLogger for the first time, set initialization parameters on the monitoring panel. The initialization parameters include system language, system time, the search address segment for the RS485 port, and the Ethernet parameters.

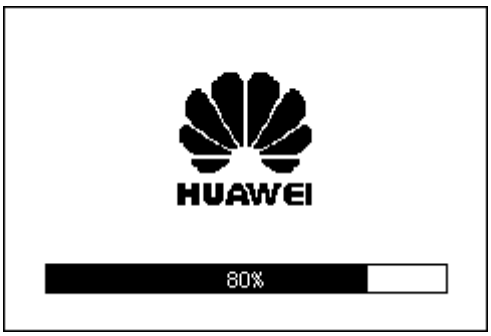
Context

NOTE

If the SmartLogger is started for the first time, set the initialization parameters by referring to this section. If it is not started for the first time, it directly performs the automatic search and then the default page.

Procedure

- The following table describes the process for setting initialization parameters. The parameter values in the following figures are for reference only.

LCD	Operation Procedure
	1. After startup, the SmartLogger enters the initialization page. The default system language is **English**.
	2. Press ↵ to enter the **Wizard** page. To return to the default page, press **ESC**. If some later re-settings are required, refer to 6.2.6 Setting the System Language, 6.2.7 Setting System Time Parameters, and 6.2.10 Setting Communications Parameters.

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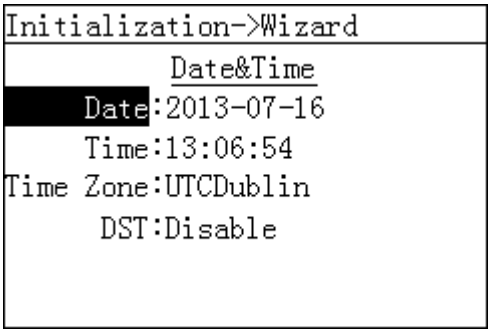
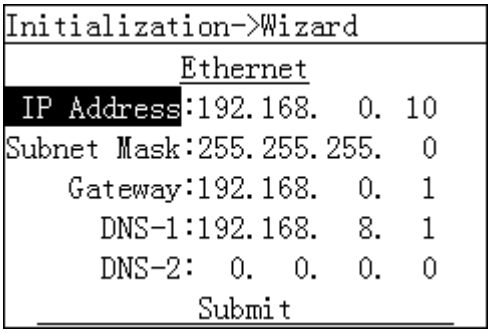
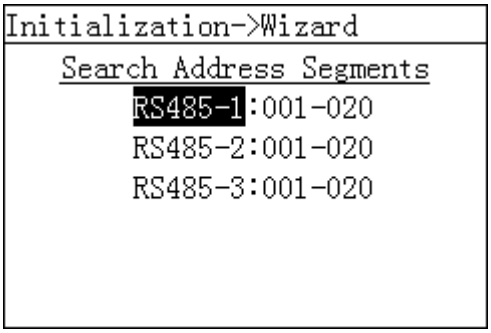
LCD	Operation Procedure
	3. Select a display language and then press ↵. The pages will be displayed in the selected language.
	4. Set the correct date and time and then press ↵. • To select the specific parameter, press ↵. To set the parameter value, press ▲ or ▼. • The date and time are displayed in the formats of **YYYY-MM-DD** and **hh:mm:ss** respectively. **YYYY** stands for the year, **MM** the month, **DD** the date, **hh** the hour, **mm** the minute, and **ss** the second. **NOTICE** After the **Time** is successfully set, this time can be synchronized in all the inverters connected to the SmartLogger.
	5. Set the Ethernet parameters and then press ↵. The following Ethernet parameters are to be set: **IP address**, **Subnet mask**, **Gateway** and **DNS**.
	6. Set the RS485 search address segment and then press ↵. You need to set the search address segments for **RS485-1**, **RS485-2**, and **RS485-3** respectively.

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LCD	Operation Procedure
	7. On the page, press ↵. After the search is complete, the SmartLogger displays a search result. Press ↵ to end this operation.

NOTE

Visiting some menu requires identity authentication. Therefore, after you set the initialization parameters, change the password immediately to ensure the security of the user account. For details, see Change the Password.

----End

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6 User Interface

About This Chapter

This topic describes the monitoring menu and operations.

6.1 Monitoring Menu Hierarchy

This topic describes the monitoring menu hierarchy, which allows you to perform operations conveniently.

6.2 Monitoring Operations

This topic describes how to operate on the monitoring panel, such as querying site and device information and setting system parameters and user parameters.

6.1 Monitoring Menu Hierarchy

This topic describes the monitoring menu hierarchy, which allows you to perform operations conveniently.

Figure 6-1 shows the monitoring menu hierarchy.

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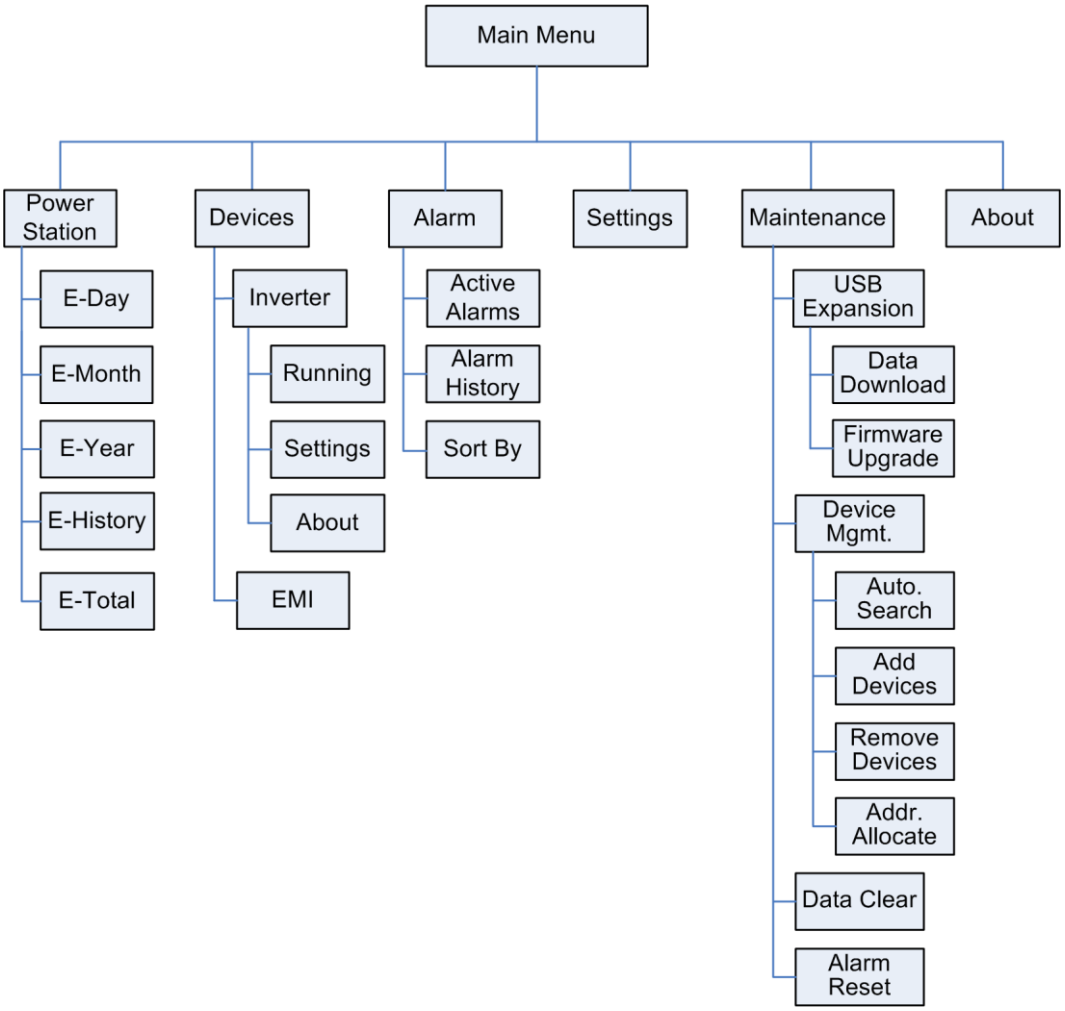
Figure 6-1 Monitoring menu hierarchy (1)



NOTE

If you visit **Maintenance** as **Common User**, a message **Current user has no authority** is displayed.

Different identities (Common User, Advanced User, and Special User) have different permissions for setting parameters. The hierarchies of **Settings** are shown in Figure 6-2.

NOTICE

The initial password for **Common User** , **Advanced User** and **Special User** is *000001*. If the SmartLogger is logged in for the first time, use the initial password to log in and change the password immediately to ensure the account security.

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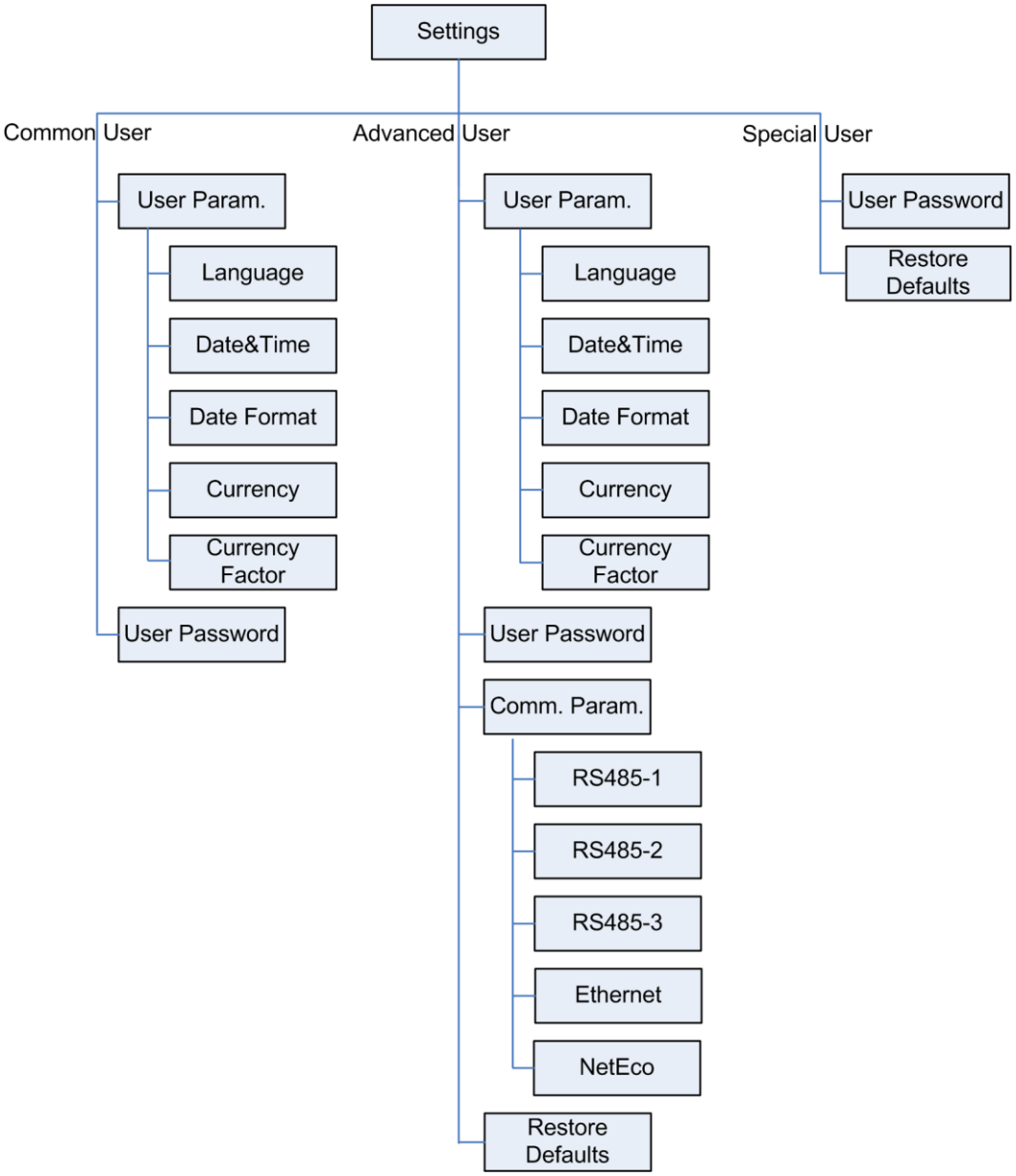
Figure 6-2 Monitoring menu hierarchy (2)



6.2 Monitoring Operations

This topic describes how to operate on the monitoring panel, such as querying site and device information and setting system parameters and user parameters.

6.2.1 Querying Power Station Information

This topic describes how to view the power station information on the monitoring panel of the SmartLogger, such as the daily, monthly, yearly, historical, and total energy yield.

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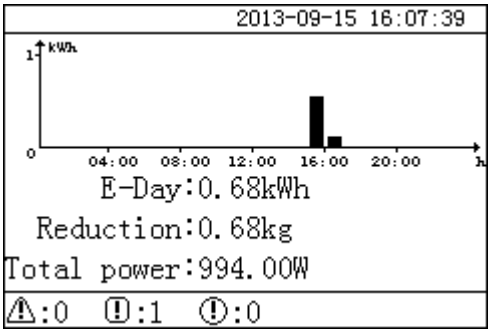
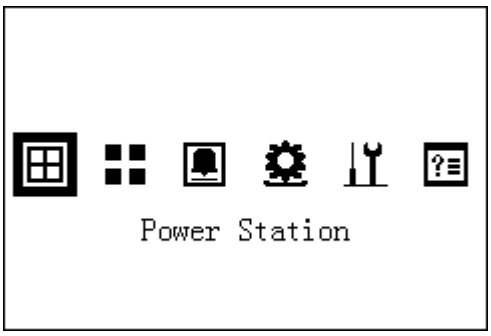
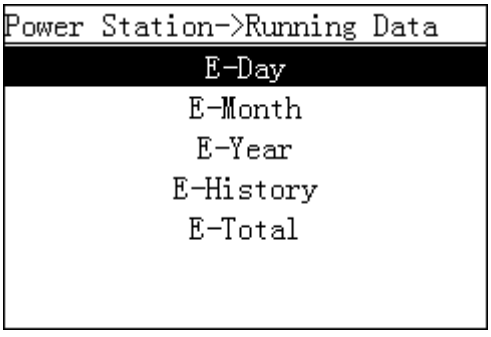
Procedure

- The following table describes the procedure for viewing power station information. The parameter values in the following figures are for reference only.

LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Choose ⊞ and press ↵.
	3. Press ▲ and ▼ to view the running data of the power station. The running data includes the daily, monthly, yearly, historical, and total energy yield. For details, see step 4 to step 8.

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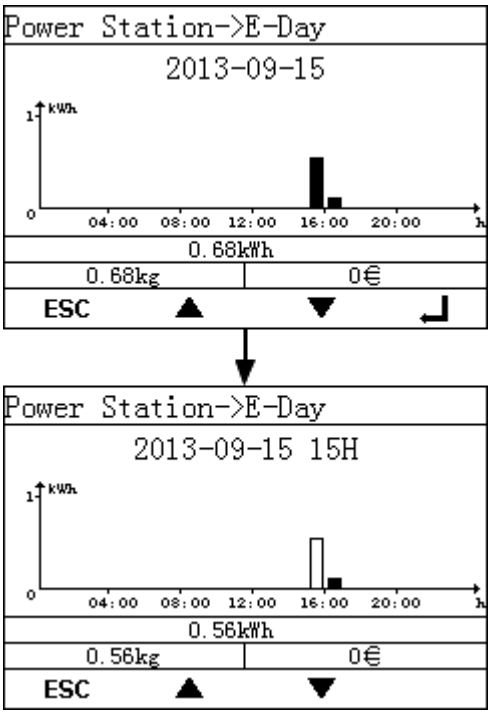
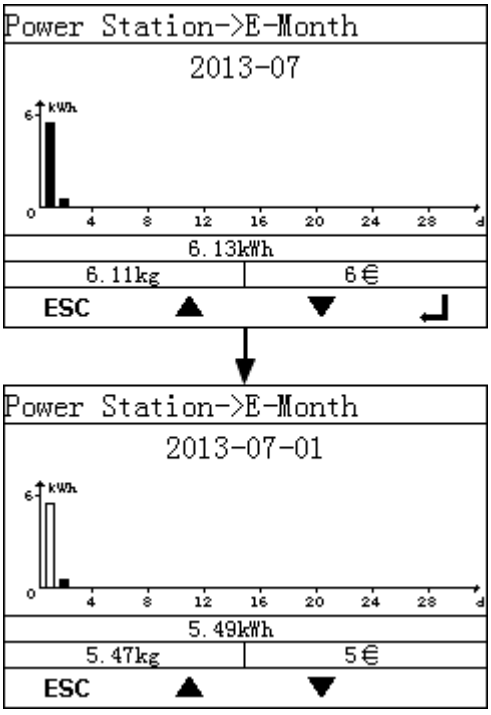
LCD	Operation Procedure
	4. View the daily energy yield. a. On the **E-Day** page, view the total energy yield and hourly energy yield of the power station on the current day. The displayed information includes the energy yield histogram, date, total energy yield on the current day, CO_2 emission reduction, and revenue. To view the energy yield in the past 30 days (including the current day), press ▲ or ▼. **NOTE** In the daily energy yield histogram, the horizontal axis stands for time (each block stands for one hour). The vertical axis stands for the total energy yield of all the inverters connected to the SmartLogger (each block stands for the total energy yield during the last hour). b. Press ↵ to view the energy yield of a specific hour on the current day. To switch between hours, press ▲ or ▼. **NOTE** The selected block is displayed in white.
	5. View the monthly energy yield. a. On the **E-Month** page, view the total energy yield and daily energy yield in the current month. The displayed information includes the energy yield histogram, Month, total energy yield of the current month, CO_2 emission reduction, and revenue. To view the energy yield in the past 12 months (including the current month), press ▲ or ▼. **NOTE** In the monthly energy yield histogram, the horizontal axis stands for day (each block stands for one day). The vertical axis stands for the total energy yield of all the inverters connected to the SmartLogger (each block stands for the total energy yield on that day). b. Press ↵ to view the energy yield on a specific day of the current month. To switch between days, press ▲ or ▼. **NOTE** The selected block is displayed in white.

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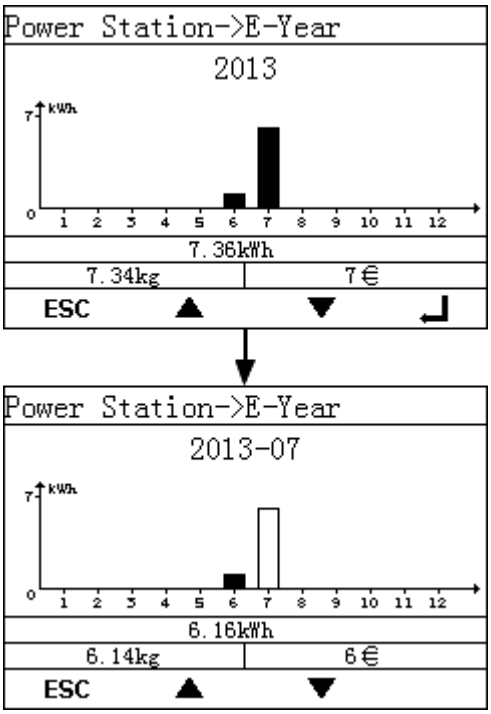
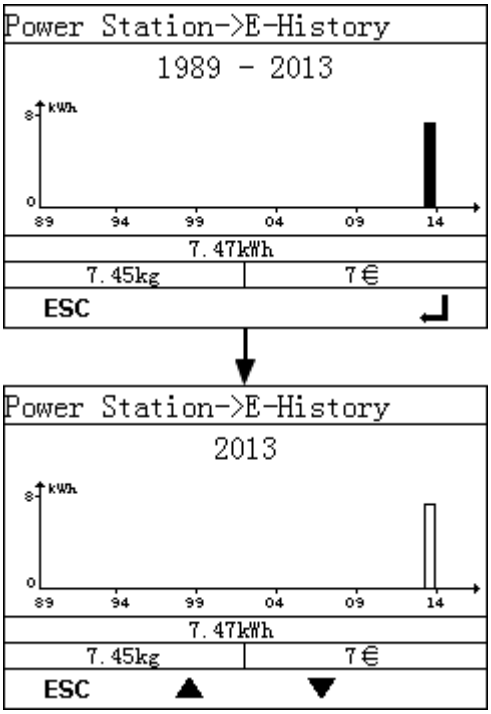
LCD	Operation Procedure
	6. View the yearly energy yield. a. On the **E-Year** page, view the total energy yield and daily energy yield in the current month. The displayed information includes the energy yield histogram, Year, total energy yield of the current month, CO_2 emission reduction, and revenue. To view the energy yield in the past 25 years (including the current year), press ▲ or ▼. **NOTE** In the yearly energy yield histogram, the horizontal axis stands for day (each block stands for one month). The vertical axis stands for the total energy yield of all the inverters connected to the SmartLogger (each block stands for the total energy yield on that month). b. Press ↵ to view the energy yield on a specific day of the current month. To switch between months, press ▲ or ▼. **NOTE** The selected block is displayed in white.
	7. View the historical energy yield. a. On the **E-History** page, view the energy yield in the past 25 years (including the current year). The displayed information includes the energy yield histogram, Year, total energy yield, CO_2 emission reduction, and revenue. To view the energy yield in the past 25 years (including the current year), press ▲ or ▼. **NOTE** In the historical energy yield histogram, the horizontal axis stands for day (each block stands for one year). The vertical axis stands for the total energy yield of all the inverters connected to the SmartLogger (each block stands for the total energy yield on that year). b. Press ↵ to view the energy yield on a specific day of the current month. To switch between months, press ▲ or ▼. **NOTE** The selected block is displayed in white.

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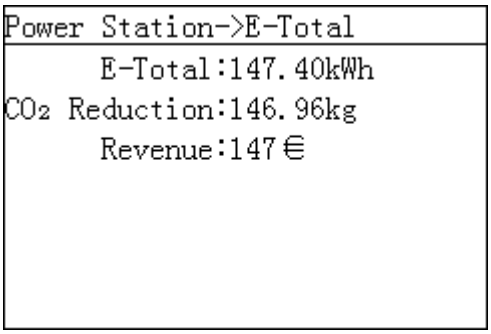
LCD	Operation Procedure
	8. On the **E-Total** page, view the total energy yield, CO_2 emission reduction, and revenue of all the devices connected to the SmartLogger. The total energy yield of the devices before they connect to the SmartLogger is also counted in the system after they are connected.

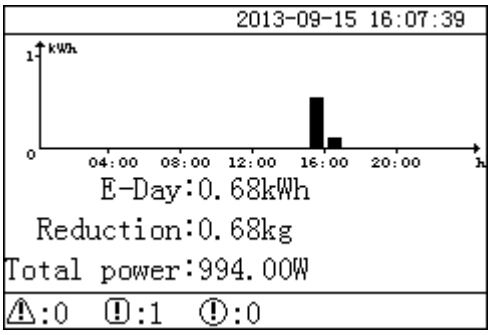
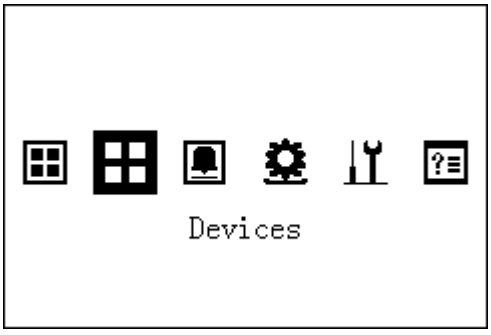
----End

6.2.2 Querying Inverter Information

This topic describes how to query the running information and version of each inverter connected to the SmartLogger.

Procedure

- The following table describes the procedure for viewing inverter information. The parameter values in the following figures are for reference only.

LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Select ■■ and press ↵.

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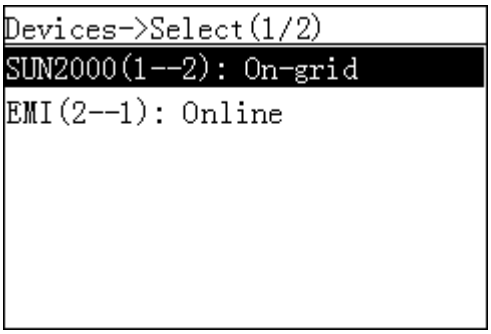
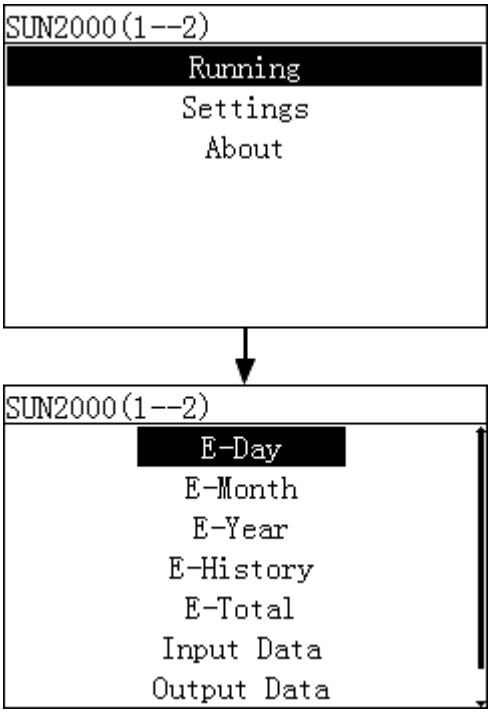
LCD	Operation Procedure
	3. Select an inverter and press ↵. **NOTE** **SUN2000 (1--2)** on the left indicates that the inverter connects to **Port 1** of the SmartLogger and the communications address of the RS485 port is **2**. The device status is displayed behind the device name. • **Devices Status** is any of the following five values for the SUN8000: **Initializing**, **Idle**, **Loading**, **Starting up**, **On-grid**, **Shutdown**, **Disconnection**, **Detecting ISO**, and **Debug**. • **Devices Status** is any of the following five values for the SUN2000: **Starting up**, **Idle**, **Loading**, **On-grid**, **Shutdown**, and **Disconnection**. • **Devices Status** is either of the following values for the EMI: **Online** and **Disconnection**. The follow-up operations are described as follows: • To view the operating data of the inverter, perform step 4. • To view the version of the inverter, perform step 5.
	4. Select **Running** and press ↵. • To view the daily energy yield of the inverter, select **E-Day** and press ↵. • To view the monthly energy yield of the inverter, select **E-Month** and press ↵. • To view the annual energy yield of the inverter, select **E-Year** and press ↵. • To view the historical energy yield of the inverter, select **E-History** and press ↵. • To view the total energy yield of the inverter, select **E-Total** and press ↵. • To view the input data of the inverter, select **Input Data** and press ↵. • To view the output data of the inverter, select **Output Data** and press ↵. • To view the internal temperature of the inverter, select **Cabinet Temp.** and press ↵. • To view the logical address of the inverter,

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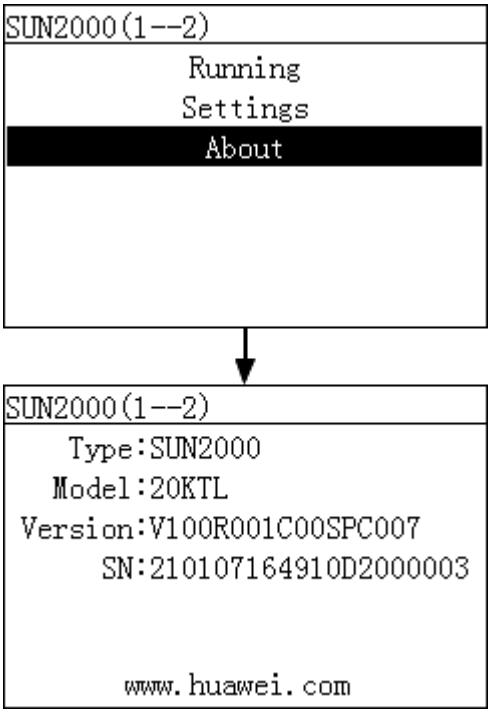
LCD	Operation Procedure
	select **Logical address** and press ↵.
	5. Select **About** and press ↵. The version information is displayed, including **Type**, **Model**, **Version**, and **SN**.

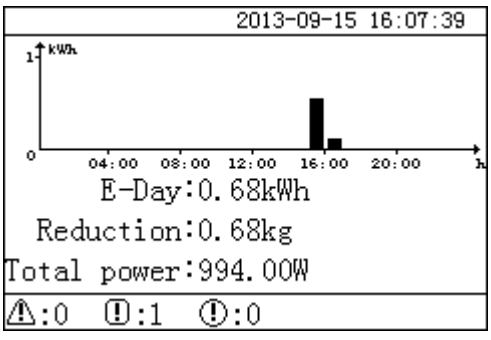
----End

6.2.3 Manually Power On or Off the Inverter on the LCD

This topic describes how to power on or off the inverter on the LCD.

Procedure

- The following table shows the procedure for powering on or off the inverter on the LCD. The parameter values in the following figures are for reference only.

LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.

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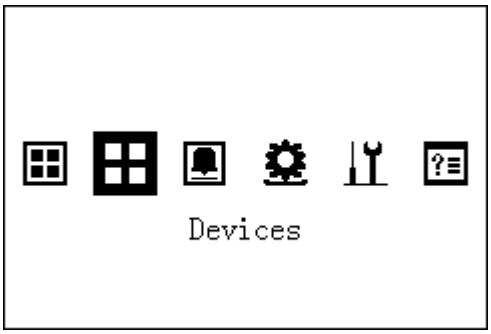
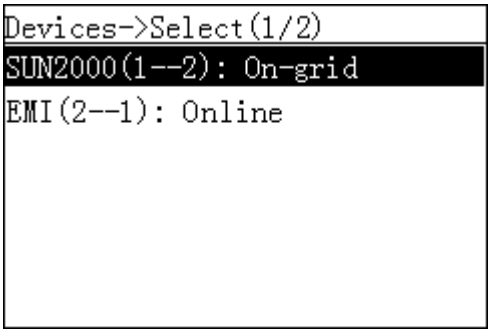
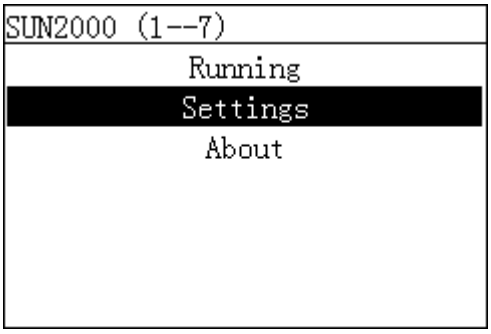
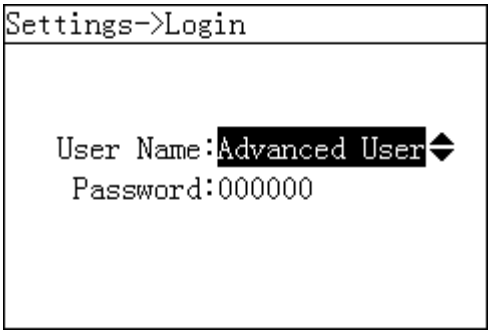
LCD	Operation Procedure
	2. Choose and press .
	3. Select an inverter and press . **NOTE** **SUN2000 (1--2)** on the left indicates that the inverter connects to **Port 1** of the SmartLogger and the communications address of the RS485 port is **2**.
	4. Choose **Settings**, and press .
	5. Set the specific **User name** and **Password**. **NOTE** The following user names can be selected: **Common User**, **Advanced User**, and **Special User**. The initial password for **Common User**, **Advanced User** and **Special User** is *000001*. If you forget the password, contact Huawei technical support for a dynamic password that is effective only on that current day. Change the password after login.

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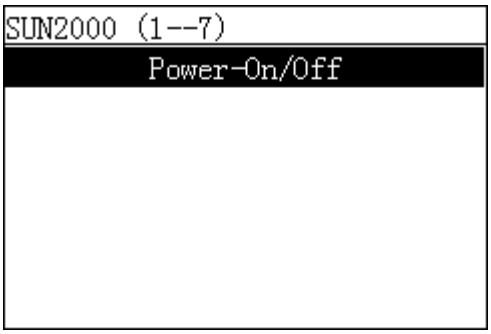
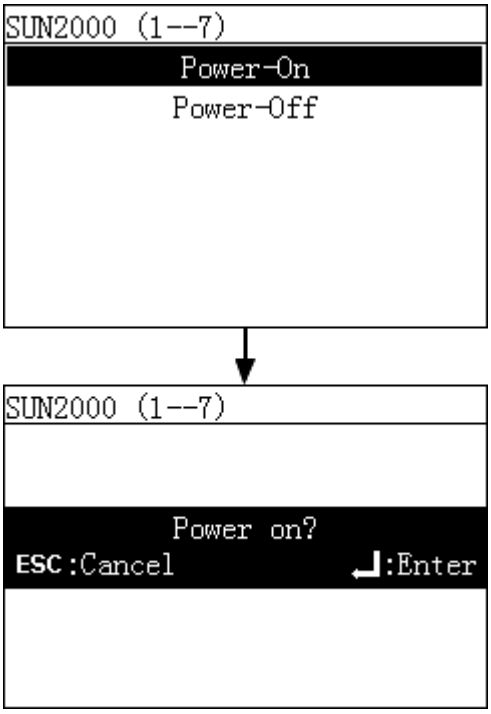
LCD	Operation Procedure
	6. Choose **Power-On/Off**, and press ↵. • Perform step 7 if you want to power on the inverter manually. • Perform step 8 if you want to power off the inverter manually.
	7. Power on manually. a. Choose **Power-On** and press ↵. b. Enter ↵ again to verify your settings.

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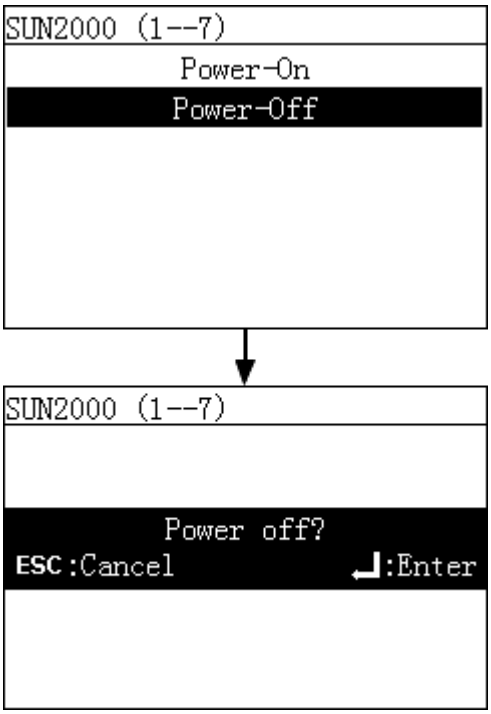
LCD	Operation Procedure
	8. Power off manually. a. Choose **Power-Off**, and press ↵. b. Enter ↵ again to verify your settings.

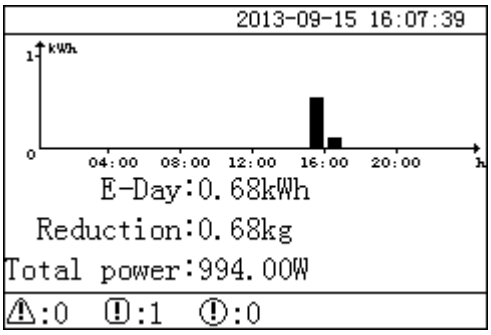
----End

6.2.4 Querying Information about the Environmental Monitoring Instrument

This topic describes how to query information about the environmental monitoring instrument connected the SmartLogger, such as the radiation intensity, PV array temperature, ambient temperature, wind speed, and wind direction.

Procedure

- The following table describes the procedure for querying information about the environmental monitoring instrument. The parameter values in the following figures are for reference only.

LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.

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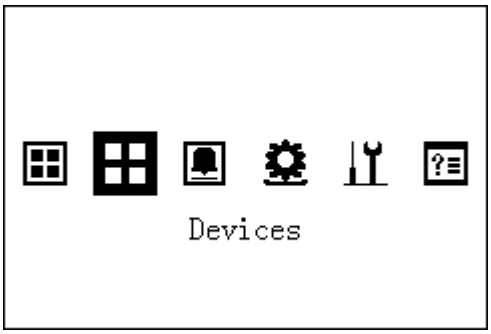
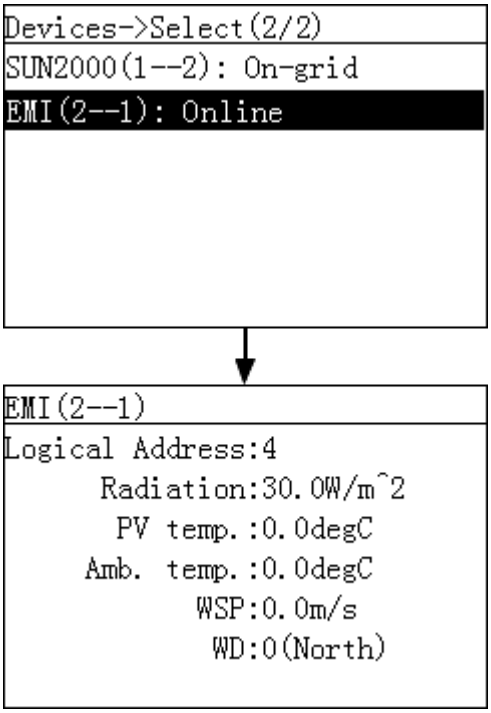
LCD	Operation Procedure
	2. Choose and press .
	3. Choose the name of the environmental monitoring instrument and press to view information about the instrument. You can view the following information about it: the Logical Address, Radiation, PV array temperature, environment temperature, wind speed, and wind direction.

----End

6.2.5 Querying Alarm Records

This topic describes how to query the active and historical alarms of the inverters that connect to the SmartLogger and how to set the alarm record sort mode.

Context

The LCD displays a maximum of 8000 latest alarm records.

Procedure

- The following table describes the procedure for viewing active and historical alarms and setting the alarm record sort mode. The parameter values in the following figures are for reference only.

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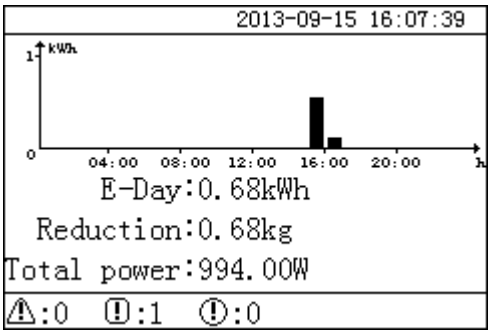
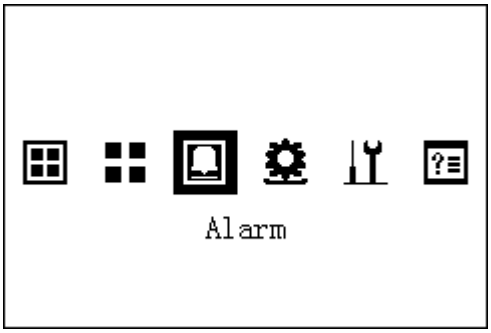
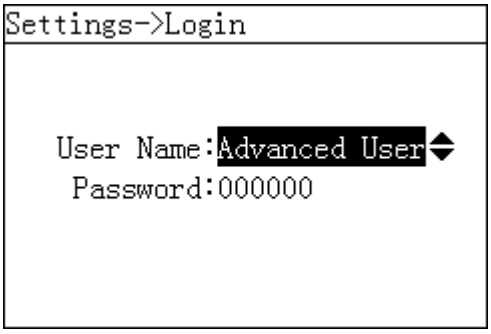
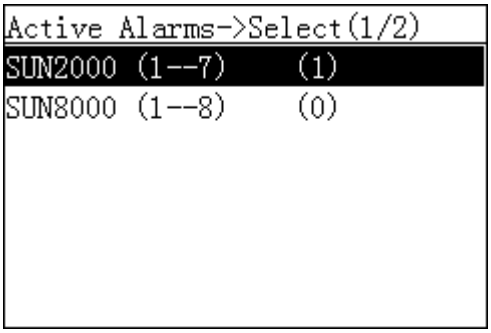
LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Choose and press ↵.
	3. Select a menu by pressing ▼, and view the active and historical alarms of the inverters, or set the alarm record sort mode by pressing ↵. • Perform step 4 and step 5 to view active alarms. • Perform step 6 and step 7 to view historical alarms. • Perform step 8 to set the alarm sort mode.
	4. On the **Active Alarm** page, select one inverter, and press ↵ to view all the active alarms for this inverter.

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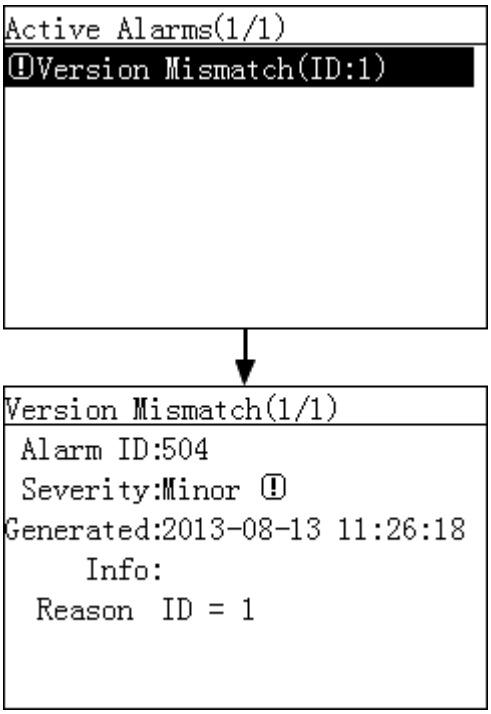
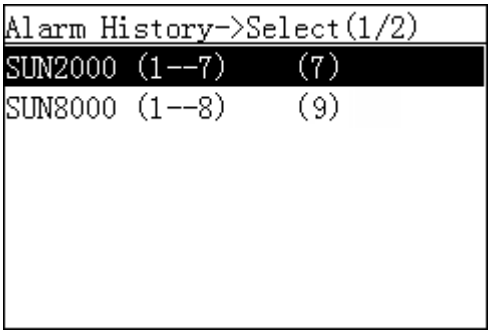
LCD	Operation Procedure
	5. Select one of the active alarms by pressing ▲ or ▼ and view the alarm details by pressing ↵. The alarm details include the Alarm ID, Severity, Generate, Info, and Reason ID. **NOTE** • For details about the alarm list of the SUN2000, see the **Common Faults and Troubleshooting Measures** in the *SUN2000 (8KTL-20KTL) User Manual*. • For details about the alarm list of the SUN8000, see the **Common Faults and Troubleshooting Measures** in the *SUN8000-500KTL User Manual*.
	6. On the **Alarm History** page, select one inverter, and press ↵ to view all the historical alarms for this inverter.

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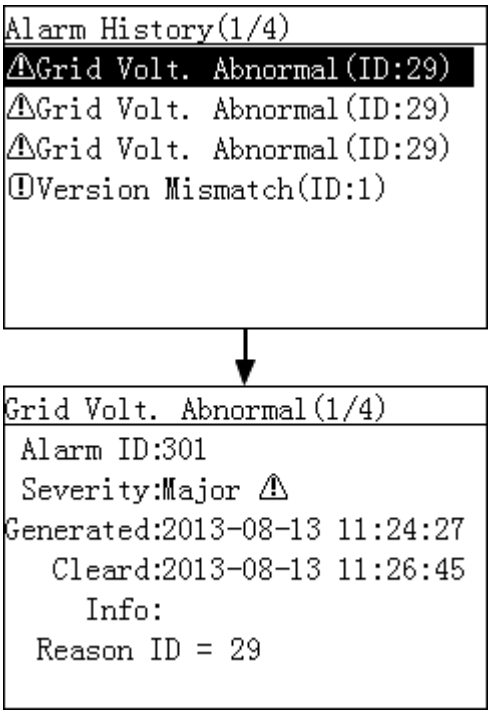
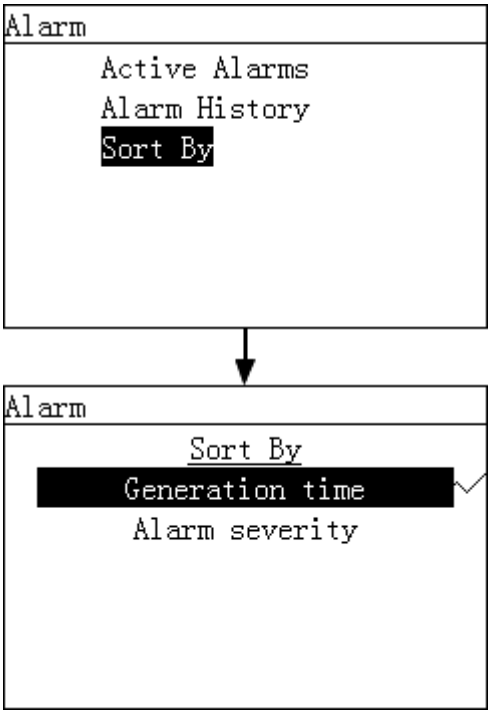
LCD	Operation Procedure
	7. Select one of the Historical Alarms by pressing ▲ or ▼ and view the alarm details by pressing ↵. The alarm details include the Alarm ID, Severity, Generate, Clear, Info, and Reason ID. **NOTE** • For details about the alarm list of the SUN2000, see the **Common Faults and Troubleshooting Measures** in the *SUN2000 (8KTL-20KTL) User Manual*. • For details about the alarm list of the SUN8000, see the **Common Faults and Troubleshooting Measures** in the *SUN8000-500KTL User Manual*.
	8. On the **Sort By** page, select **Generation time** or **Alarm severity**.

----End

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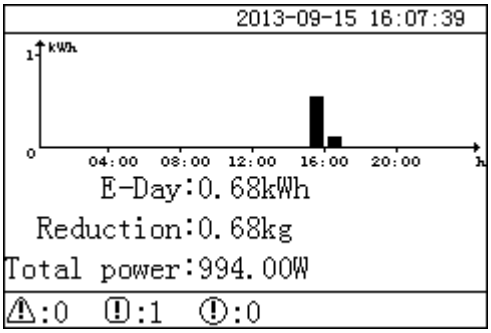
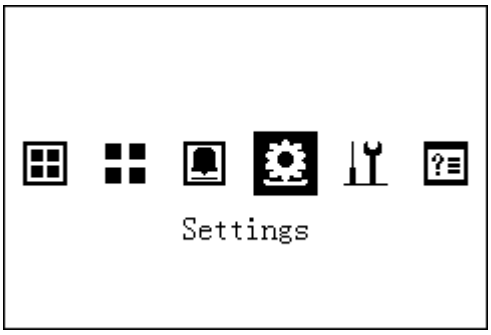
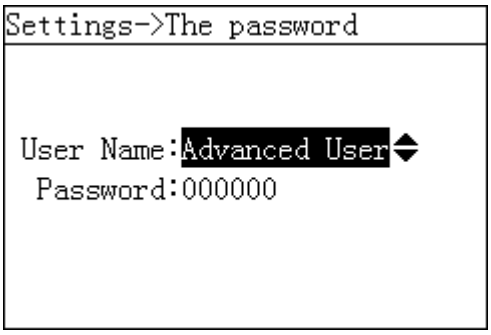
6.2.6 Setting the System Language

This topic describes how to set the display language for the SmartLogger on the monitoring panel.

Procedure

- The following table describes the procedure for setting the display language. The parameter values in the following figures are for reference only.

LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Choose ⚙ and press ↵.
	3. Specify the **User name** and **Password** by pressing ▲ or ▼, and then press ↵. **NOTE** • Because of the limited permission, select the **User name** as **Common User** or **Advanced User**. The initial password for **Common User** and **Advanced User** is *000001*. If you forget the password, contact Huawei technical support for a dynamic password that is effective only on that current day. Change the password after login. • After passing the permission validation, the system keeps the authentication information for 30 seconds. If you exit from the **Settings** page and log in again within 30 seconds, no authentication is required.

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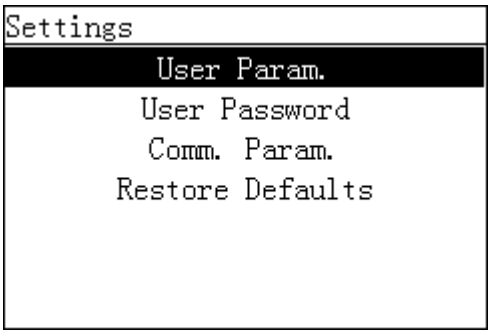
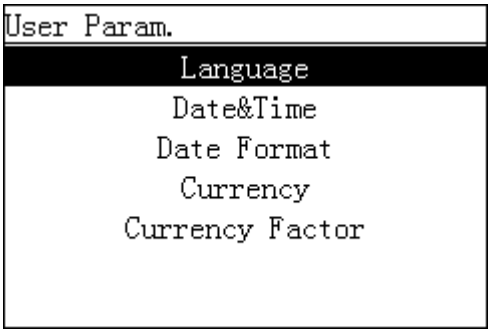
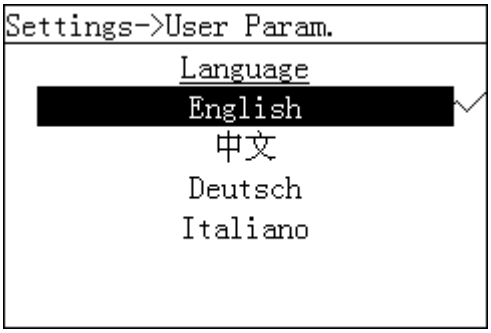
LCD	Operation Procedure
 Here use the pages displayed when you log in to the SmartLogger as **Advanced User**.	4. Choose **User Param.**, and press ↵.
	5. Choose **Language**, and press ↵.
	6. On the **Language** page, select a display language, and press ↵. The pages will be displayed in the selected language.

----End

6.2.7 Setting System Time Parameters

This topic describes how to set the date, time and date format for the SmartLogger on the monitoring panel.

Procedure

- The following table describes the procedure for setting the time and date. The parameter values in the following figures are for reference only.

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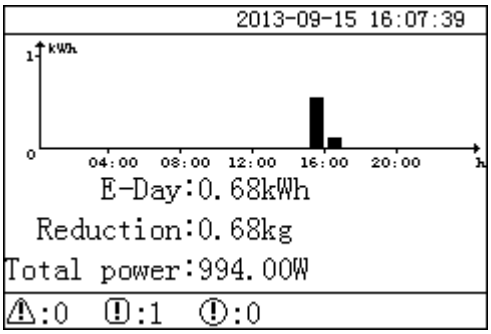
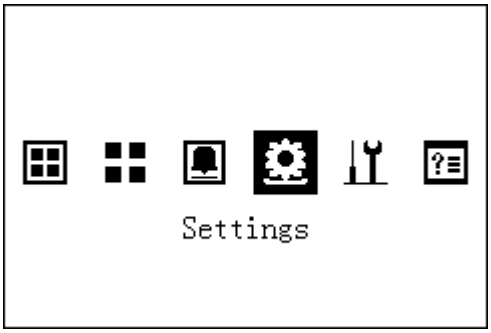
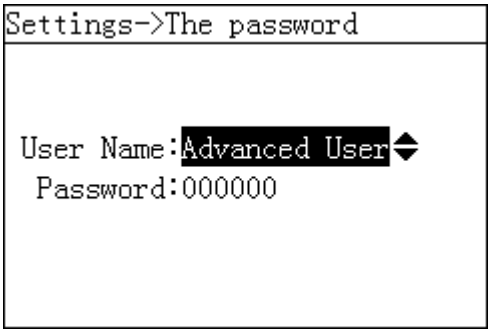
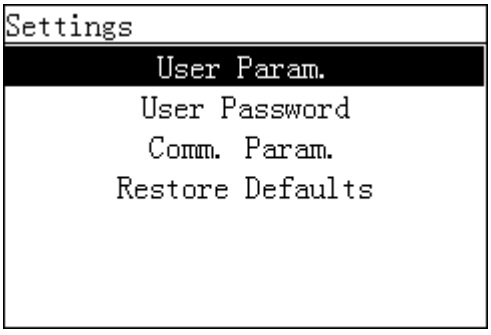
LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Choose ⚙ and press ↵.
	3. Specify the **User name** and **Password** by pressing ▲ or ▼, and then press ↵. **NOTE** • Because of the limited permission, select the **User name** as **Common User** or **Advanced User**. The initial password for **Common User** and **Advanced User** is *000001*. If you forget the password, contact Huawei technical support for a dynamic password that is effective only on that current day. Change the password after login. • After passing the permission validation, the system keeps the authentication information for 30 seconds. If you exit from the **Settings** page and log in again within 30 seconds, no authentication is required.
 Here use the pages displayed when you log in to the SmartLogger as **Advanced User**.	4. Choose **User Param.**, and press ↵.

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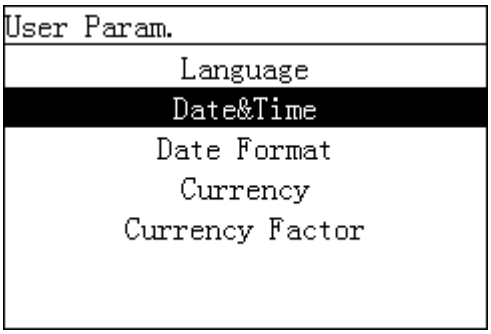
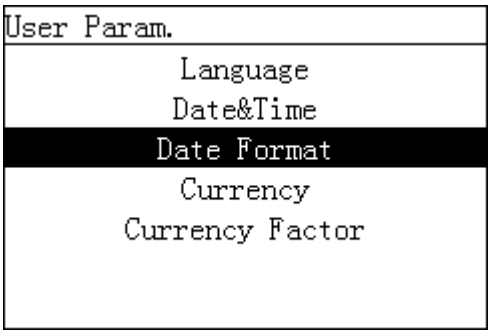
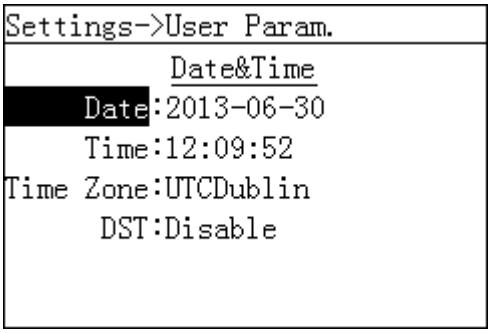
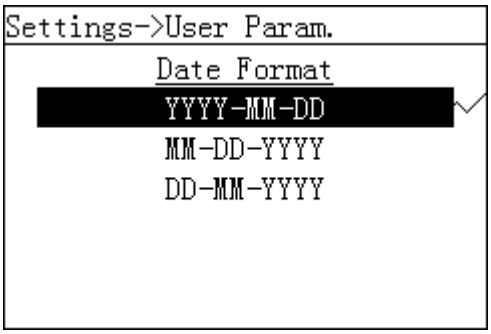
LCD	Operation Procedure
 	5. Choose **Date&Time** or **Date Format** by pressing ▼, and press ↵. **NOTICE** • Modifying **Date&Time** will affect the integrity of the SmartLogger's energy yield and performance data. Hence, do not change it at will. • After **Date&Time** is successfully set, this time can be synchronized in all the inverters connected to the SmartLogger.
	6. On the **Date&Time** page, set the date and time, set the time zone, enable or disable the daylight saving time, and press ↵. • To select the specific parameter, click ↵. To set the parameter value, set ▲ or ▼. • The date and time are displayed in the formats of **YYYY-MM-DD** and **hh:mm:ss** respectively. **YYYY** stands for the year, **MM** the month, **DD** the date, **hh** the hour, **mm** the minute, and **ss** the second. • Set **Time Zone** based on the location of the inverters and enable or disable **DST** as required.
	7. On the **Date Format** page, select a date format, and press ↵. The selectable date formats include **YYYY-MM-DD**, **MM-DD-YYYY** and **DD-MM-YYYY**. **YYYY**, **MM**, and **DD** stand for year, month, and day respectively.

----End

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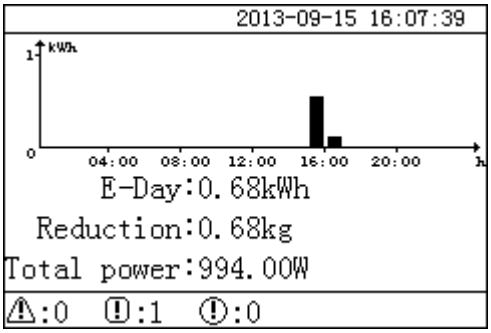
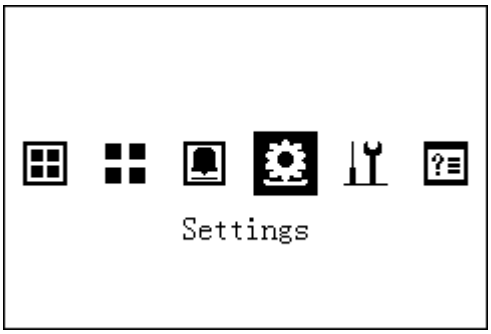
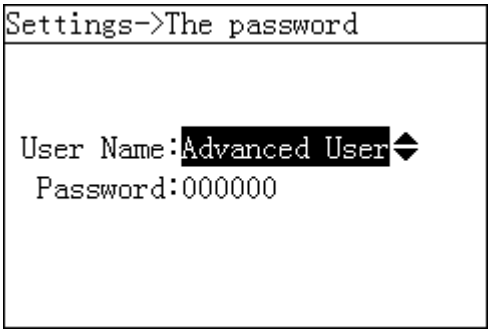
6.2.8 Setting the Currency and Currency Factor

This topic describes how to set the currency and currency factor for the SmartLogger.

Procedure

- The following table describes the procedure for setting the currency and currency factor. The parameter values in the following figures are for reference only.

LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Choose ⚙ and press ↵.
	3. Specify the **User name** and **Password** by pressing ▲ or ▼, and then press ↵. **NOTE** • Because of the limited permission, select the **User name** as **Common User** or **Advanced User**. The initial password for **Common User** and **Advanced User** is *000001*. If you forget the password, contact Huawei technical support for a dynamic password that is effective only on that current day. Change the password after login. • After passing the permission validation, the system keeps the authentication information for 30 seconds. If you exit from the **Settings** page and log in again within 30 seconds, no authentication is required.

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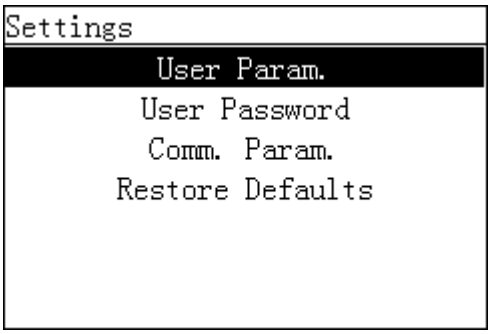
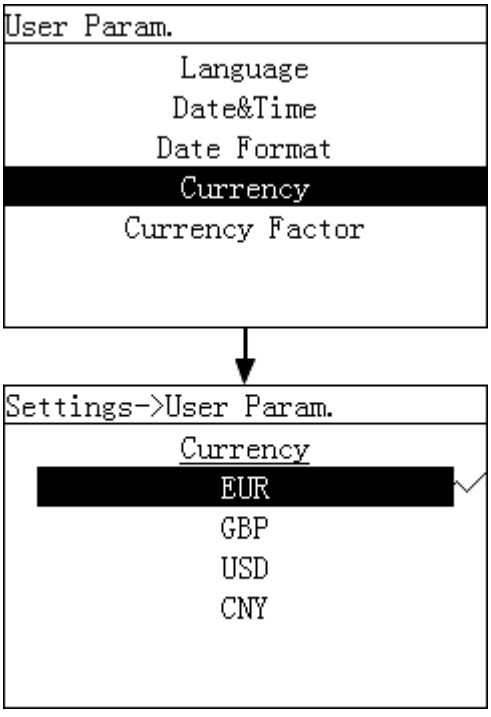
LCD	Operation Procedure
 Here use the pages displayed when you log in to the SmartLogger as **Advanced User**.	4. Choose **User Param.**, and press ↵. • Perform step 5 to set the currency. • Perform step 6 to set the currency factor.
	5. Set the currency. a. Select **Currency** by pressing ▼, and press ↵. b. Select a currency, and press ↵. The selectable currencies include **EUR**, **GBP**, **USD**, and **CNY**.

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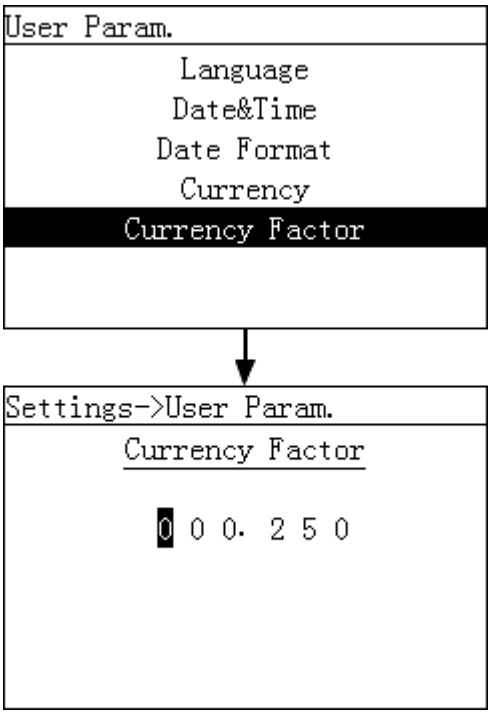
LCD	Operation Procedure
	6. Set the currency factor. **NOTICE** Set the currency before you set the currency factor. The currency factor is the electricity price per kWh, which is used to calculate the energy yield revenue. a. Select **Currency Factor** by pressing ▼, and then press ↵. b. Set the currency factor by pressing ▲ or ▼, and then press ↵.

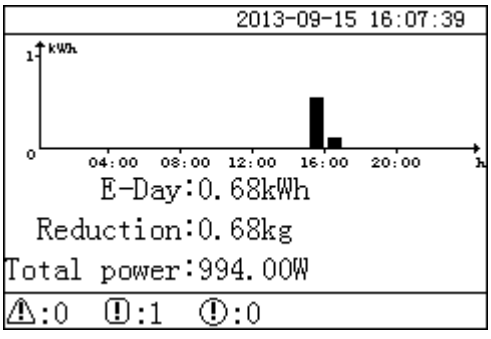
----End

6.2.9 Changing a Password

This topic describes how to change a password on the monitoring panel.

Procedure

- The following table describes the procedure for changing a password. The parameter values in the following figures are for reference only. A password may contain digits, upper-case letters, and lower-case letters.

LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.

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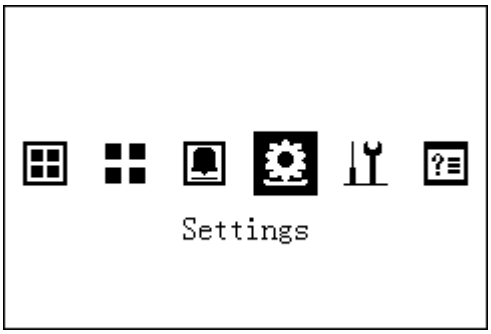
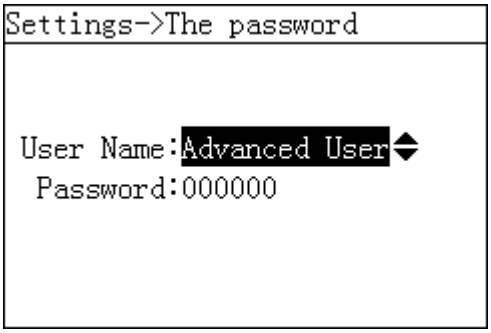
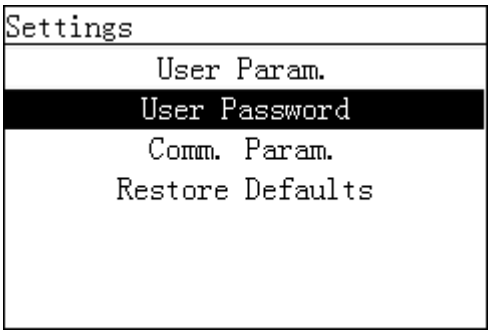
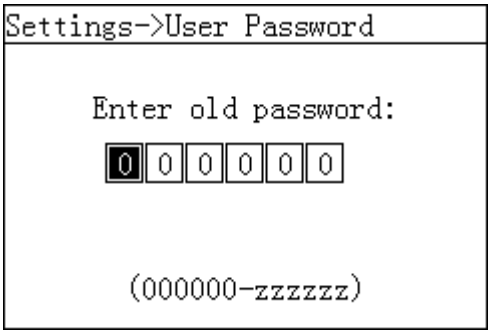
LCD	Operation Procedure
	2. Choose and press .
	3. Set **User Name** and **Password** by pressing or , and press . **NOTE** • **User Name** can be set to any of the following values: **Common User**, **Advanced User**, and **Special User**. The initial password is *000001*. If you forget the password, contact Huawei technical support personnel for a dynamic password that is valid only on the current day. Change the password after login. • After the authentication is successful, the system keeps the authentication information for 30 seconds. If you exit from the **Settings** screen and log in again within 30 seconds, no authentication is required.
 Here use the pages displayed when you log in to the SmartLogger as **Advanced User**.	4. Select **User Password** by pressing , and press . **NOTICE** The password on the LCD is the same as that on the WebUI. After you change a password on the LCD, the password on the WebUI changes synchronously.
	5. Enter the old password and press . Increase or decrease the value by pressing or . Switch between data bits by pressing .

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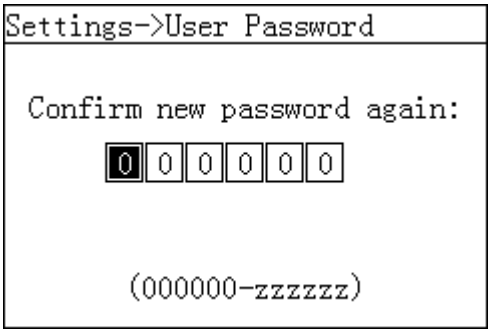
LCD	Operation Procedure
	6. Enter a new password and press ↵. Increase or decrease the value by pressing ▲ or ▼. Switch between data bits by pressing ↵.
	7. Enter the new password again and press ↵. **NOTE** Ensure that you enter the new password twice coherently. Otherwise, an error message is displayed. After the password is changed successfully, the LCD displays operation success information.

NOTE

If you want to change the password for another account, exit from the **Settings** screen (without logging in to the **Maintenance** screen), wait 30 seconds, log in by using the account for which you want to change the password, and perform step 3 to step 7 in the preceding table.

----End

6.2.10 Setting Communications Parameters

This topic describes how to set the communications parameters for the SmartLogger on the monitoring panel, including the parameters for the RS485 (baud rate, start address, and end address), parameters for the Ethernet (IP address, subnet mask, gateway and DNS) and parameters for the Server (Connect Mode, NMS IP, and Port Number).

Context

- Correctly set RS485 parameters to ensure normal communication between the SmartLogger and the inverters and between the SmartLogger and the environmental monitoring instrument.
- Correctly set Ethernet parameters to ensure proper operation of Ethernet ports and functions of logging in to the embedded WebUI, connecting to the element management system, and sending emails.
- Correctly set NetEco parameters to ensure normal communication between the SmartLogger and the NetEco.

Procedure

- The following table describes the procedure for setting communications parameters. The parameter values in the following figures are for reference only.

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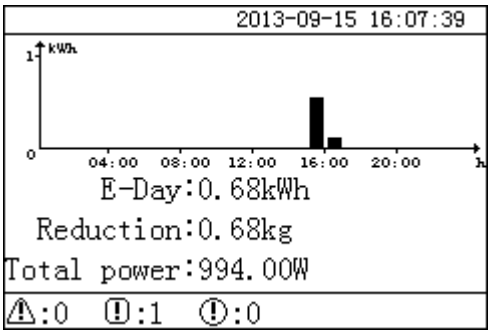
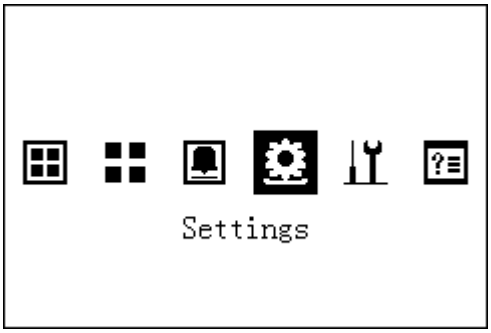
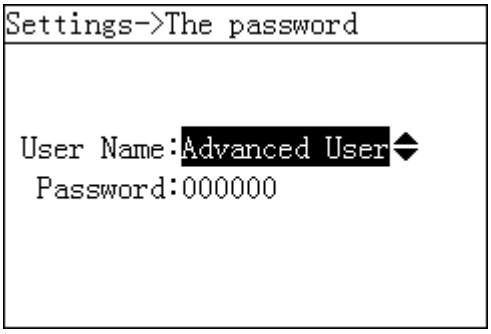
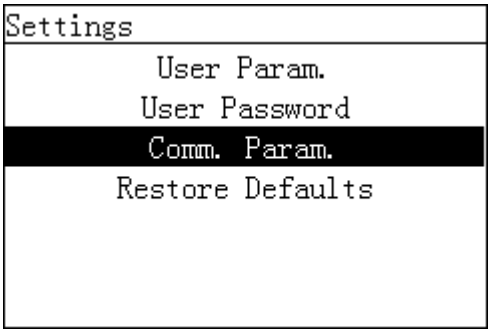
LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Choose ⚙ and press ↵.
	3. Enter the **User name** and **Password** by pressing ▲ or ▼, and then press ↵. **NOTE** • Because of the limited permission, select the **User name** as **Advanced User**. The initial password for **Advanced User** is *000001*. If you forget the password, contact Huawei technical support for a dynamic password that is effective only on that current day. Change the password after login. • After passing the permission validation, the system keeps the authentication information for 30 seconds. If you exit from the **Settings** page and log in again within 30 seconds, no authentication is required.
 Here use the pages displayed when you log in to the SmartLogger as **Advanced User**.	4. Select **Comm. Param.** and press ↵. • Perform step 5 and step 6 to set the parameters for the RS485. • Perform step 7 and step 8 to set the parameters for the Ethernet. • Perform step 9 and step 10 to set the parameters for the NetEco.

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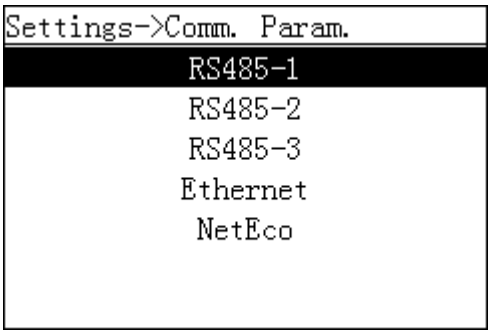
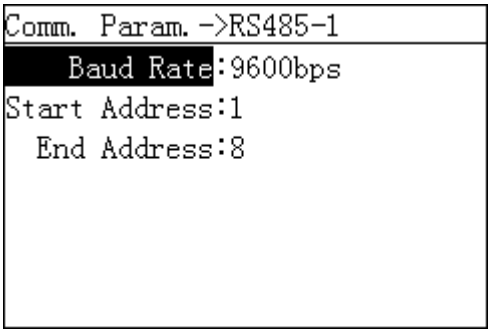
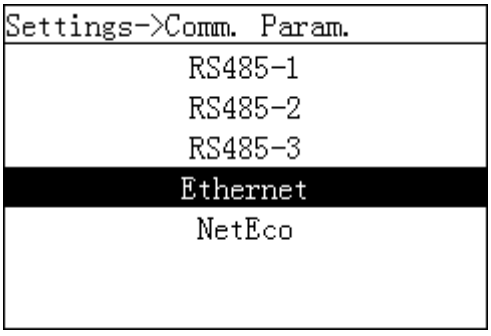
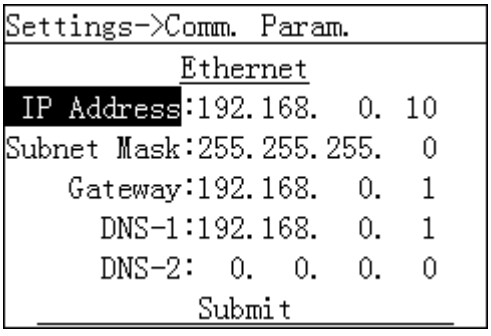
LCD	Operation Procedure
	5. Select an RS485 port by pressing ▲ or ▼ and then press ↵. There are three RS485 ports: **RS485-1**, **RS485-2**, and **RS485-3**. The corresponding port for **RS485-1** is **COM1**; **RS485-2** is **COM2**; **RS485-3** is **COM3**.
	6. Set **Baud Rate**, **Start Address** and **End Address**, and press ↵. • The following baud rates are supported: **4800bps**, **9600bps** and **19200bps**. 9600bps is recommended. • 1≤**Start Address** ≤ **End Address** ≤ 247. The address segments for these three ports can overlap. Set the address scope properly. The broader the scope is, the longer the time is for searching the devices.
	7. Press ▼, select **Ethernet**, and press ↵.
	8. Set **IP address**, **Subnet Mask**, **Gateway**, and **DNS**, and press ↵. **NOTICE** Take the following precautions for setting Ethernet parameters when the SmartLogger connects to the Internet through a router: • Set the gateway address to the IP address of the router. • Ensure that the IP address of the SmartLogger is in the same network segment as the gateway address. • Set the domain name server (DNS) address to the IP address of the router or obtain the DNS address from the network provider.

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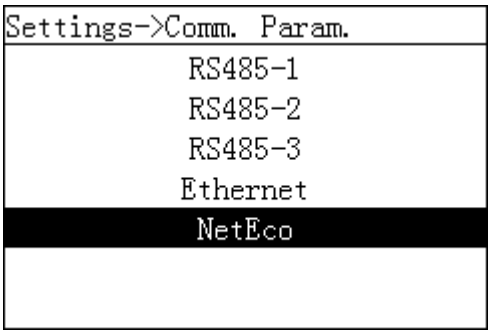
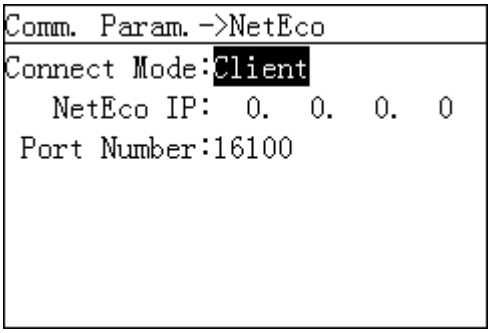
LCD	Operation Procedure
	9. Press ▼, select **NetEco**, and press ↵.
	10. Set **Connect Mode**, **NetEco IP**, and **Port Number**, and press ↵. • When **Connect Mode** is set to **Server**, the NetEco connects to the SmartLogger as a client. Generally, this mode applies to the scenario where the SmartLogger and NetEco are in the same local area network (LAN). • When **Connect Mode** is set to **Client**, set an IP address and a port ID (16100 by default) for the NetEco on the SmartLogger. This mode applies to remote access scenarios, for example, when the SmartLogger and NetEco are not in the same LAN. • When **Connect Mode** is set to **Server+Client**, the SmartLogger connects to the NetEco as a client or connects to a third-party EMS as a server. The SmartLogger can connect to a third-party EMS and Huawei NetEco by Modbus and TCP. In this way, customers can perform centralized monitoring by using a third-party EMS while using Huawei NetEco to perform remote upgrade, log uploading, batch parameter setting, historical performance data analysis, and historical alarm analysis.

----End

6.2.11 Restoring Factory Settings

This topic describes how to restore factory settings for the SmartLogger on the monitoring panel. After this operation, all parameters, excluding the current date and time, will restore to the default factory settings. However, the running information, alarm records, and system logs do not change.

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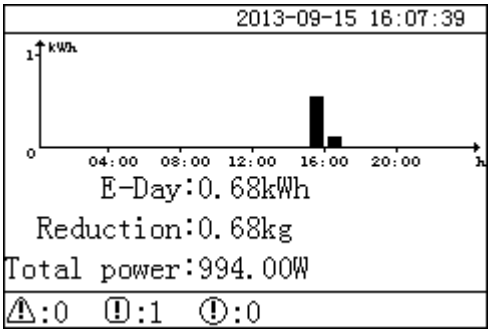
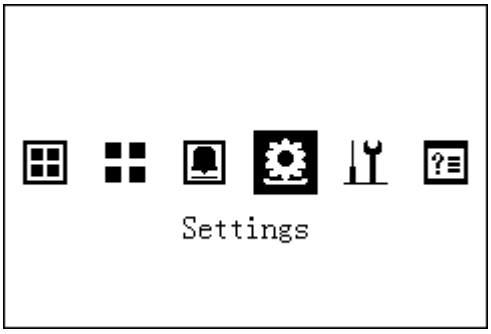
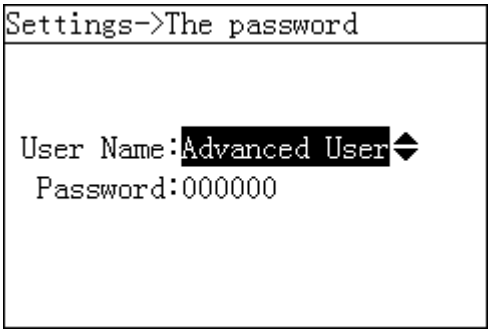
Context

NOTICE

- After restoring factory settings for the SmartLogger, set the user parameters and communications parameters in time and log in to the WebUI to set the environmental monitoring instrument parameters and power grid dispatching parameters.
- The displayed language is **English** by default.

Procedure

- The following table describes the procedure for restoring factory settings. The parameter values in the following figures are for reference only.

LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Choose ⚙ and press ↵.
	3. Enter the **User name** and **Password** by pressing ▲ or ▼, and then press ↵. **NOTE** • Because of the limited permission, select the **User name** as **Advanced User** or **Special User**. The initial password for **Advanced User** and **Special User** is *000001*. If you forget the password, contact Huawei technical support for a dynamic password that is effective only on that current day. Change the password after login. • After passing the permission validation, the system keeps the authentication information for 30 seconds. If you exit from the **Settings** page and log in again within 30 seconds, no authentication is required.

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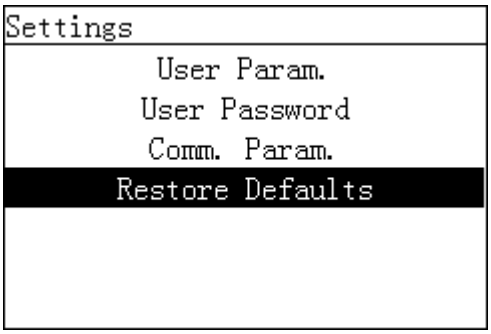
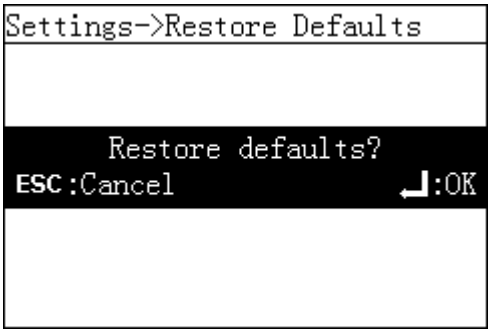
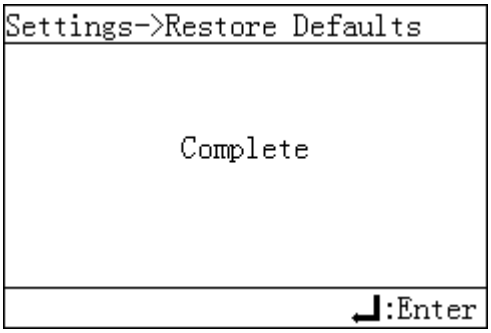
LCD	Operation Procedure
 Here use the pages displayed when you log in to the SmartLogger as **Advanced User**.	4. Choose **Restore Defaults**, and press ↵.
	5. On the displayed page, press ↵.
	6. Press ↵ to complete the settings.

----End

6.2.12 Downloading Data by Using a USB Flash Drive

This topic describes how to use a USB flash drive to download data on the monitoring panel, such as the performance data, operation logs, commissioning logs of the SmartLogger and the alarm records of all the inverters. It provides reference for backtracking and problem analysis.

Context

- Side View of the shell shows the USB port in the SmartLogger.

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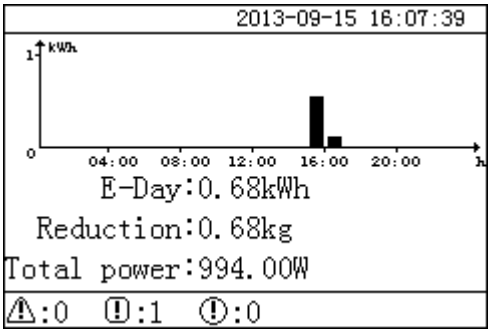
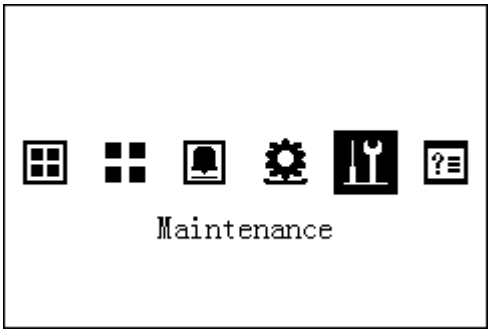
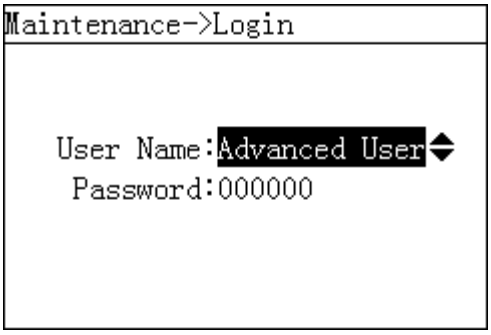
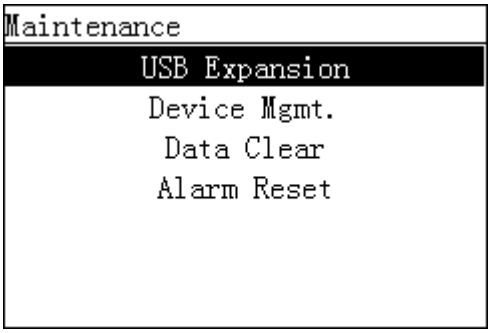
Procedure

- The following table describes the procedure for using a USB flash drive to download data. The parameter values in the following figures are for reference only.

LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Select and press ↵.
	3. Enter the **User name** and **Password** by pressing ▲ or ▼, and then press ↵. **NOTE** • Because of the limited permission, select the **User name** as **Advanced User** or **Special User**. The initial password for **Advanced User** and **Special User** is *000001*. If you forget the password, contact Huawei technical support for a dynamic password that is effective only on that current day. Change the password after login. • After passing the permission validation, the system keeps the authentication information for 30 seconds. If you exit from the **Maintenance** page and log in again within 30 seconds, no authentication is required.
 Here use the pages displayed when you log in to the SmartLogger as **Advanced**	4. Select **USB Expansion** and press ↵. **NOTE** • Before this operation, connect the USB flash drive to the USB port. • If no USB flash drive is detected, the LCD displays a message prompting **No USB device detected.**. The system takes 5 to 10 seconds to detect the USB flash drive. Then perform the following steps.

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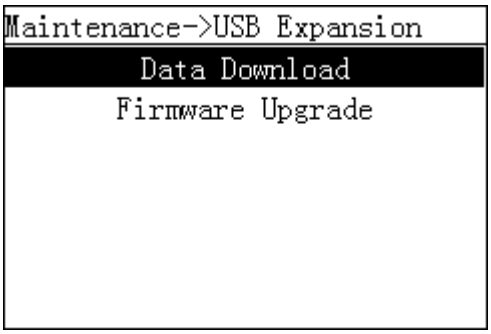
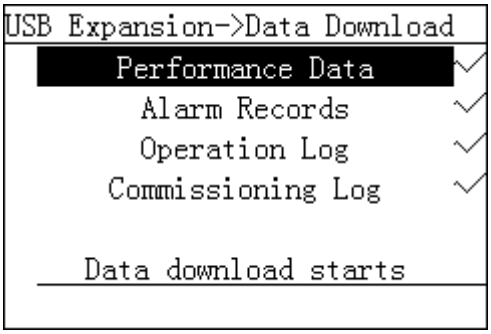
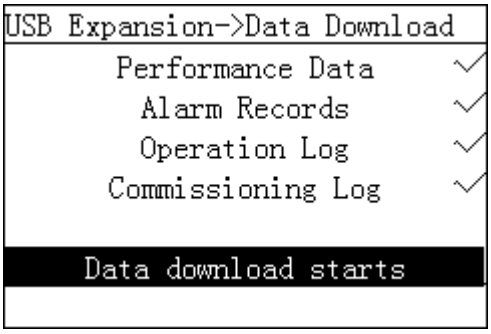
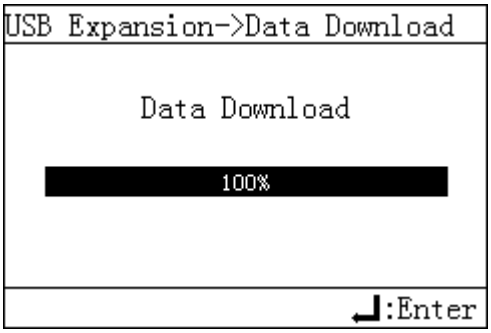
LCD	Operation Procedure
User.	
	5. Select **Data Download** and press ↵. The following data can be downloaded: performance data, alarm records, operation logs, and commissioning logs.
	6. Press ▲ or ▼ to select the data you want to download and press ↵ to include or exclude the data. All kinds of data are included by default.
	7. Select **Data download starts** and press ↵.
	8. When the progress bar reaches 100%, press ↵.

----End

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6.2.13 Upgrading Firmware by Using a USB Flash Drive

This topic describes how to upgrade the firmware on the monitoring panel by using a USB flash drive. You can not only upgrade the firmware of the SmartLogger, but also upgrade the firmware of the connected inverters on the SmartLogger.

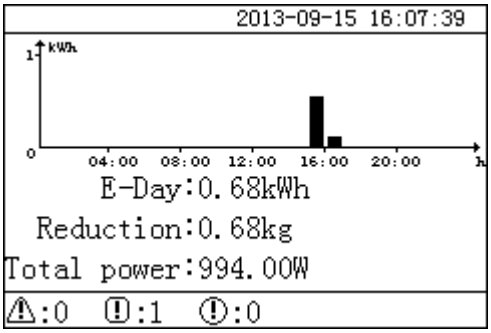
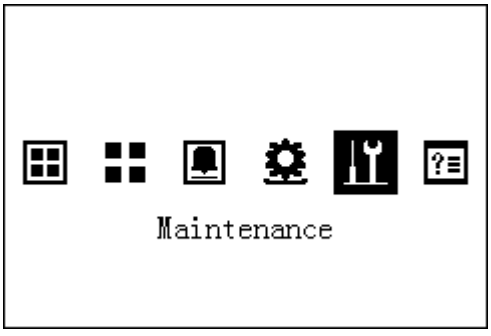
Context

NOTICE

- Before upgrading the firmware, download the upgrade package from **http://enterprise.huawei.com** and copy it to the USB flash drive.
- Save the compressed package under the root directory and do not extract the package.
- When upgrading the firmware for the SUN2000, change the file name of the package to sun2000_usb.zip.
- When upgrading the SUN8000 and SmartLogger1000, do not change the file name of the package.

Procedure

- The following table shows the procedure for upgrading the firmware versions by using a USB flash drive. The parameter values in the following figures are for reference only.

LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Select and press ↵.

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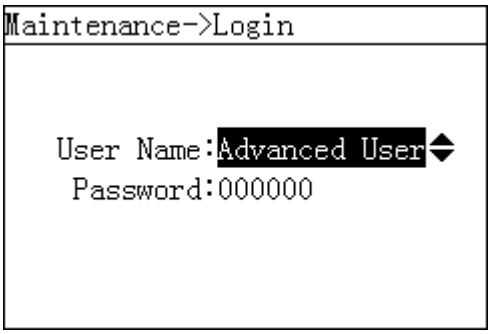
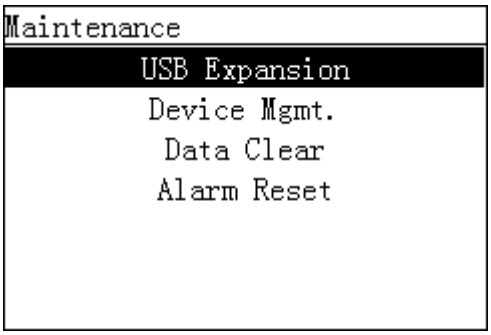
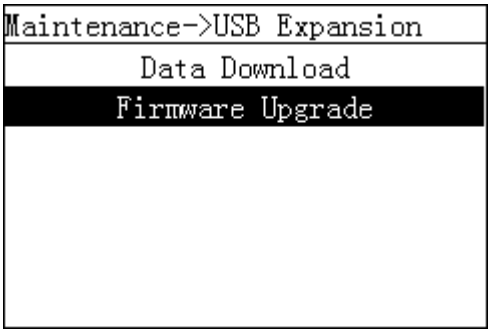
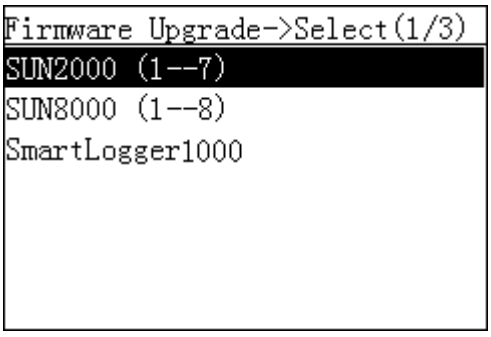
LCD	Operation Procedure
	3. Enter the **User name** and **Password** by pressing ▲ or ▼, and then press ↵. **NOTE** • Because of the limited permission, select the **User name** as **Advanced User** or **Special User**. The initial password for **Advanced User** and **Special User** is *000001*. If you forget the password, contact Huawei technical support for a dynamic password that is effective only on that current day. Change the password after login. • After passing the permission validation, the system keeps the authentication information for 30 seconds. If you exit from the **Maintenance** page and log in again within 30 seconds, no authentication is required.
 Here use the pages displayed when you log in to the SmartLogger as **Advanced User**.	4. Select **USB Expansion** and press ↵. **NOTE** • Before this operation, connect the USB flash drive to the USB port. • If no USB flash drive is detected, the LCD displays a message prompting **No USB device detected.**. The system takes 5 to 10 seconds to detect the USB flash drive. Then perform the following steps.
	5. Choose **Firmware Upgrade**, and press ↵.
	6. Press ↵ to select a specific device. The SmartLogger and the inverters connected to it can be upgraded. The **SUN2000 (1--7)** on the left indicates that this inverter connects to the **Port 1** of the SmartLogger and the communications address for the RS485 port is **7**.

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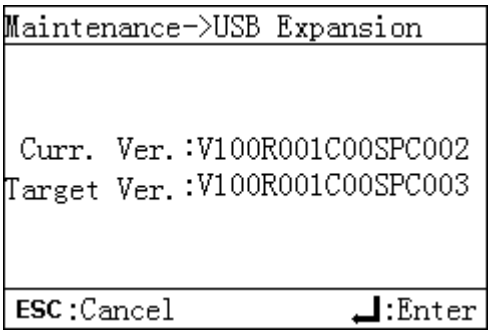
LCD	Operation Procedure
 The displayed page for upgrading the inverter.	7. After determining the **Target Version**, press ↵. **NOTICE** Before upgrading the SUN2000, ensure that it is correctly connected to the PV arrays. • After upgrading the SmartLogger, restart the SmartLogger. • After upgrading the inverter, press ↵.

----End

6.2.14 Managing Devices

This topic describes how to search for, add, or delete devices that are connected to the SmartLogger on the monitoring panel.

Context

- Provided that all the inverters are correctly connected to the SmartLogger and that all the communications parameters are correctly set, the SmartLogger can perform the automatic search and detect all the connected inverters.
- After you add, delete, or replace a device, or change the RS485 address, search for devices again or restart the SmartLogger (the SmartLogger automatically searches for devices after it restarts).
- The environmental monitoring instrument cannot be detected automatically. You need to add this device manually.
- For devices that no longer exist in the PV power system, perform **Remove Devices** in time to save the system resources.
- The RS485 addresses of all inverters are set the same when they are delivered. If the firmware version of the SUN2000 is later than V100R001C00SPC010, you can perform the automatic address assignment on the SmartLogger. If any two RS485 addresses overlap, the SmartLogger automatically reassigns different addresses, which facilitates remote site setup and improves the maintenance efficiency.

Procedure

- The following table describes the procedure for managing the devices. The parameter values in the following figures are for reference only.

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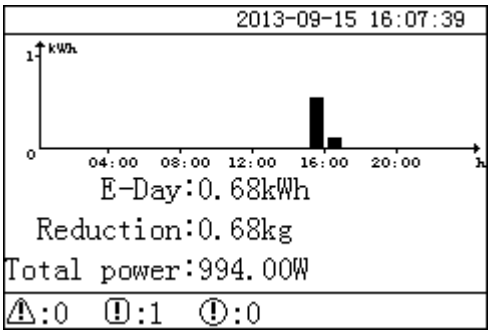
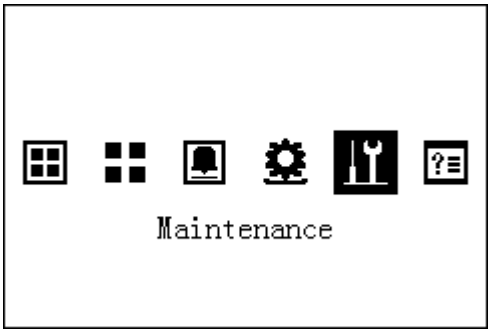
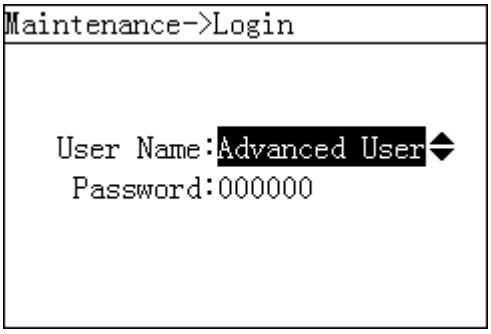
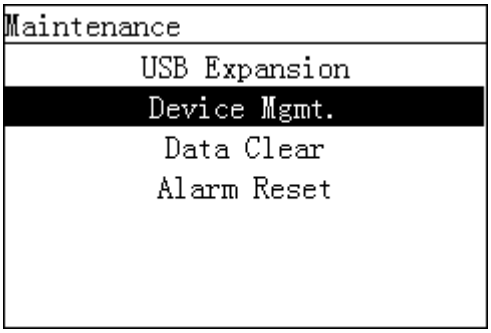
LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Select and press ↵.
	3. Enter the **User name** and **Password** by pressing ▲ or ▼, and then press ↵. **NOTE** • Because of the limited permission, select the **User name** as **Advanced User** or **Special User**. The initial password for **Advanced User** and **Special User** is *000001*. If you forget the password, contact Huawei technical support for a dynamic password that is effective only on that current day. Change the password after login. • After passing the permission validation, the system keeps the authentication information for 30 seconds. If you exit from the **Maintenance** page and log in again within 30 seconds, no authentication is required.
	4. Select **Device Mgmt.** and press ↵. • Perform step 5 to enable the SmartLogger to automatically search for devices. • Perform step 6 to add devices to the SmartLogger. • Perform step 7 to delete devices. • To assign addresses, perform step 8 and step 9.

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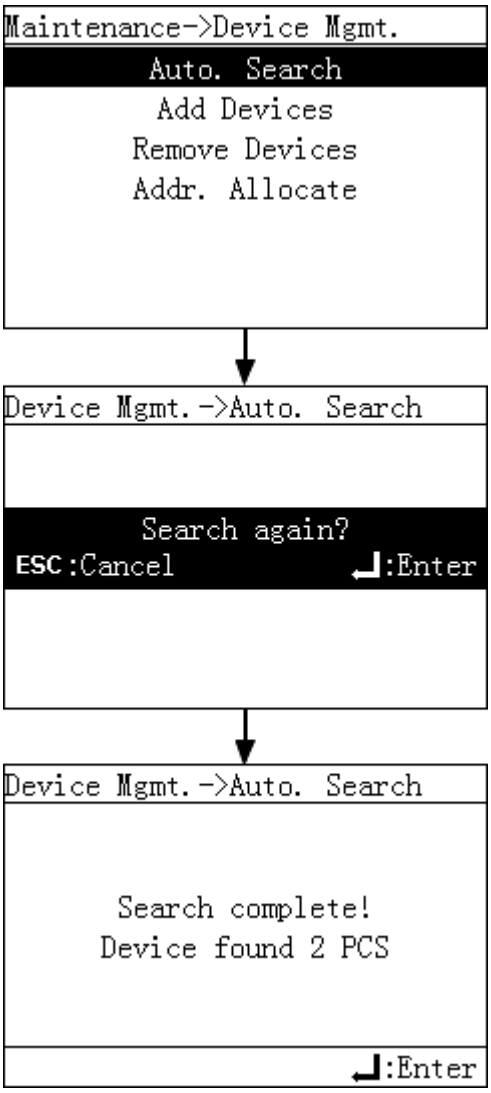
LCD	Operation Procedure
	5. Select **Auto. Search**, and press ↵. Before performing the automatic search, ensure that all the devices can normally communicate with the SmartLogger. **NOTE** • After you add, delete, or replace a device, or change the RS485 address, search for devices again. • If a device is added, search for the device on the SmartLogger or restart the SmartLogger and then search for the device on the NetEco1000.

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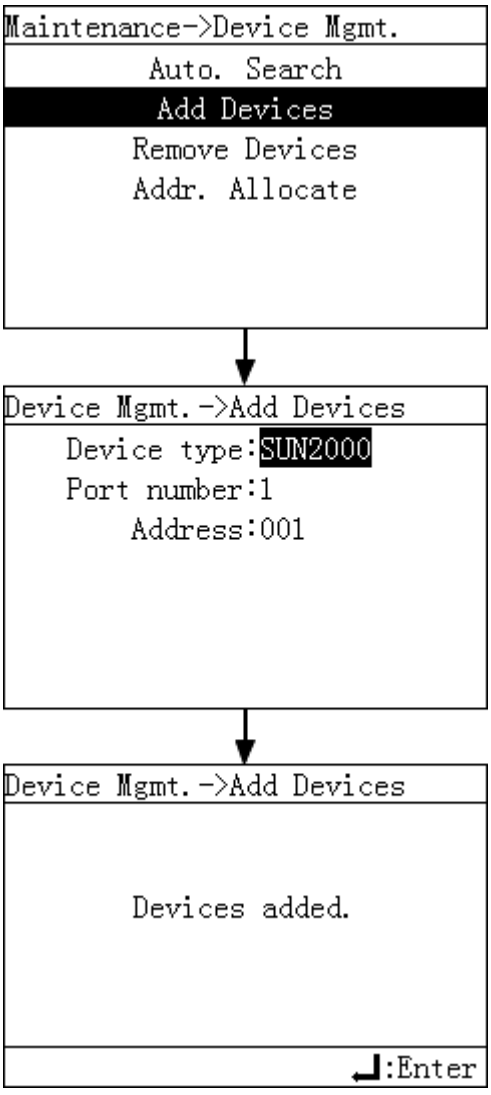
LCD	Operation Procedure
	6. Select **Add Devices** and press ↵. **NOTE** • The EMI cannot be detected automatically. You need to add this device manually. • If the communication is abnormal, or the address on the port has been used, the device cannot be added.

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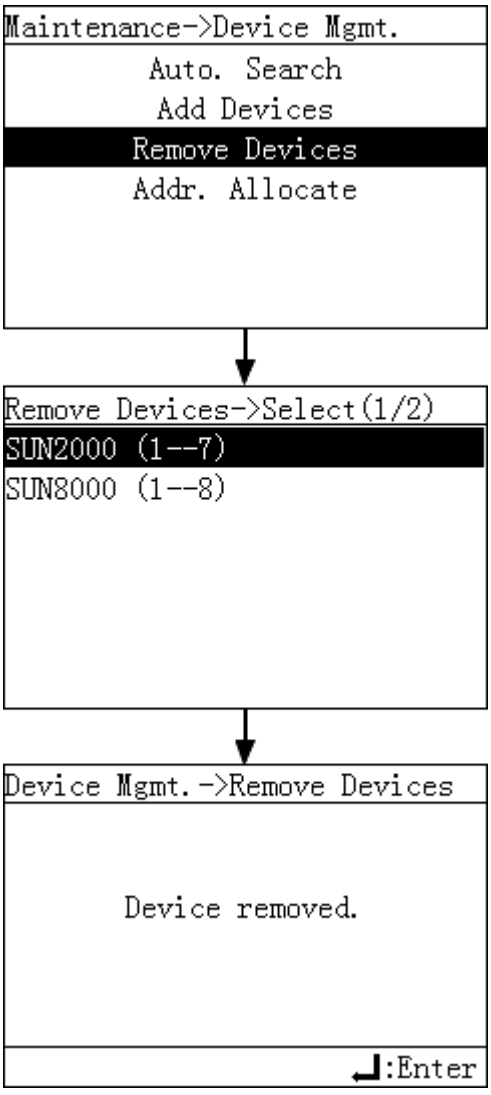
LCD	Operation Procedure
	7. Select **Remove Devices** and press ↵ twice. **NOTE** For devices that no longer exist in the PV power system, perform **Remove Devices** in time to save the system resources.

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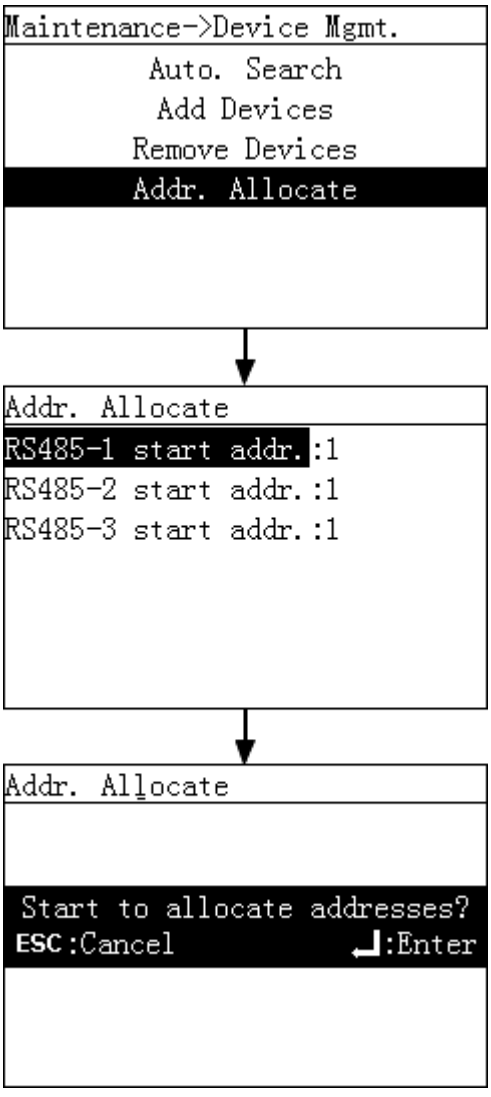
LCD	Operation Procedure
	8. Select **Addr. Allocate**, set the start addresses assigned for RS485-1, RS485-2, and RS485-3, and then press ↵ to allocate the addresses.

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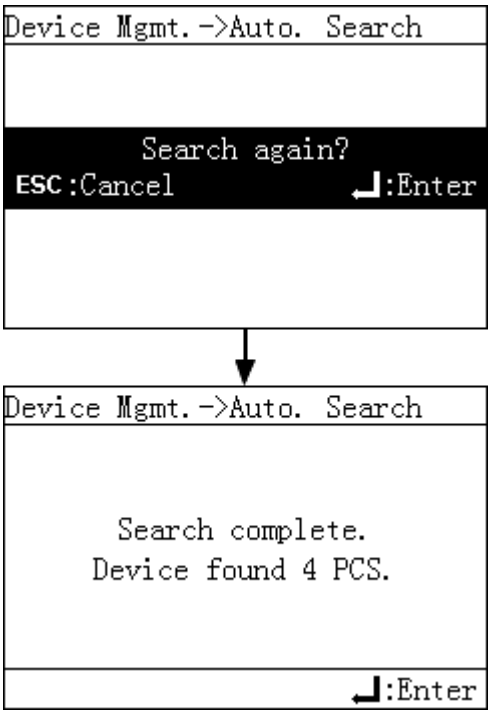
LCD	Operation Procedure
	9. After the setting of **Addr. Allocate** is complete, press ↵ to search the devices.

----End

6.2.15 Clearing Data

This topic describes how to delete alarm and performance data on the LCD.

Context

NOTICE

After you perform this operation, energy yield data, performance data, and alarms are cleared from the SmartLogger.

Procedure

- The following table describes the procedure for clearing data. The parameter values in the following figures are for reference only.

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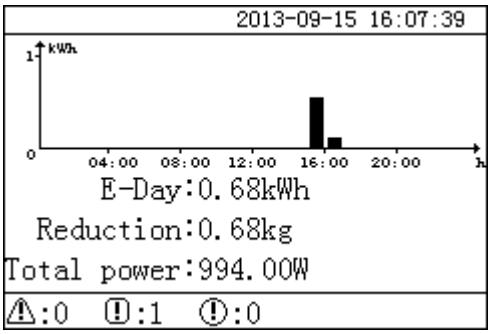
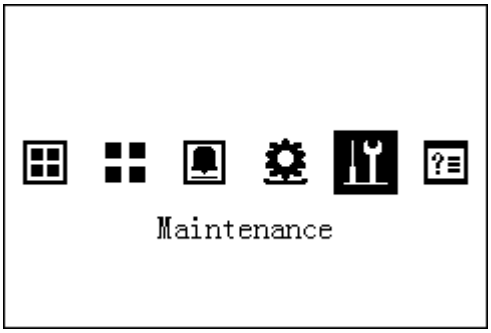
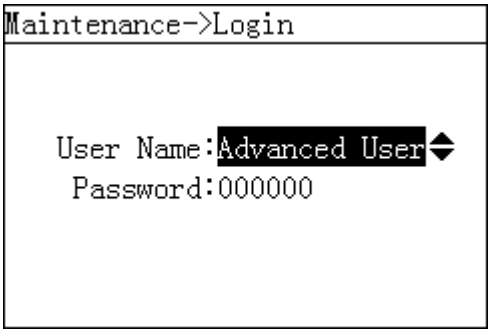
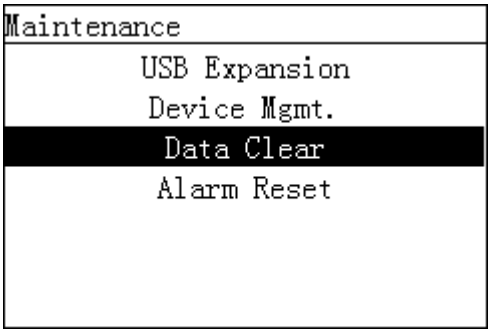
LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Select and press ↵.
	3. Enter the **User name** and **Password** by pressing ▲ or ▼, and then press ↵. **NOTE** • Because of the limited permission, select the **User name** as **Advanced User** or **Special User**. The initial password for **Advanced User** and **Special User** is *000001*. If you forget the password, contact Huawei technical support for a dynamic password that is effective only on that current day. Change the password after login. • After passing the permission validation, the system keeps the authentication information for 30 seconds. If you exit from the **Maintenance** page and log in again within 30 seconds, no authentication is required.
	4. Press ▼, select **Data Clear**, and press ↵. **NOTICE** Cleared data cannot be restored. Therefore, perform this operation with caution.

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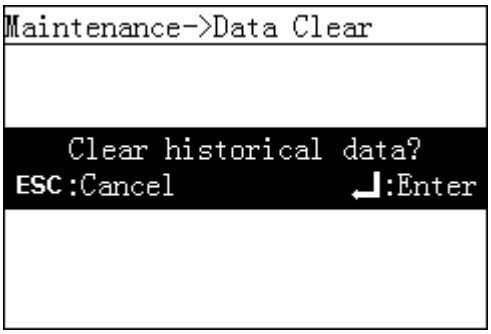
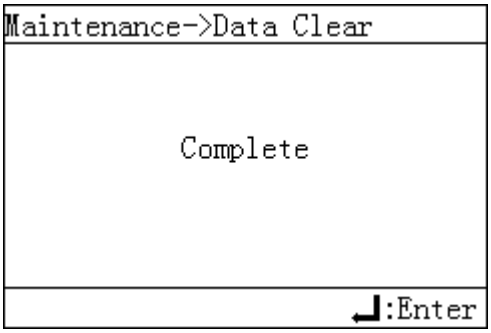
LCD	Operation Procedure
	5. On the displayed screen, press ↵.
	6. After the data is cleared, press ↵. No further operation is required.

----End

6.2.16 Alarm Reset

This topic describes how to reset alarm on the LCD.

Context

If you reset alarms on the LCD, all the active and historical alarms for the inverter are deleted and the SmartLogger starts to collect new alarms.

NOTICE

- If you perform **Data Clear** for inverters, you need to perform **Alarm Reset** for both the SmartLogger and the NetEco1000 at the same time. Otherwise, the SmartLogger cannot collect the alarm information generated by the inverter after **Alarm Reset** is performed.
- If you perform **Alarm Reset** or **Data Clear** for the SmartLogger, you also need to perform **Alarm Reset** for the NetEco1000. Otherwise the NetEco1000 cannot collect the alarm information collected by the SmartLogger after **Alarm Reset** is performed.

Procedure

- The following table describes the procedure for resetting data. The parameter values in the following figures are for reference only.

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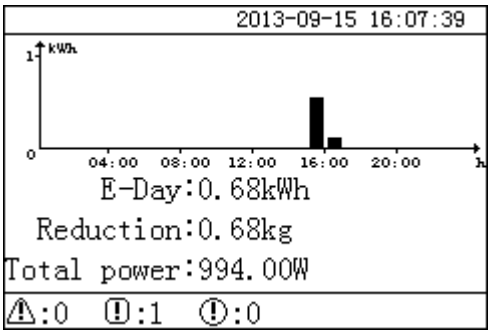
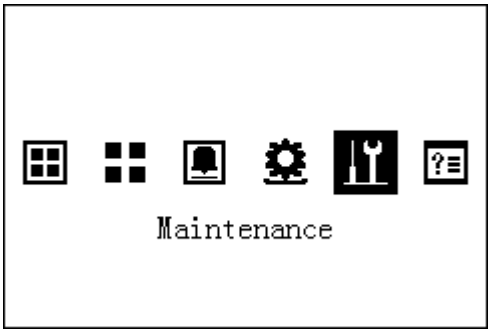
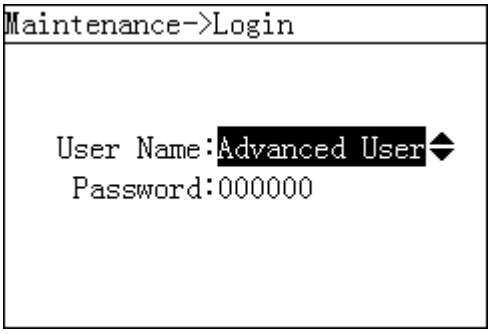
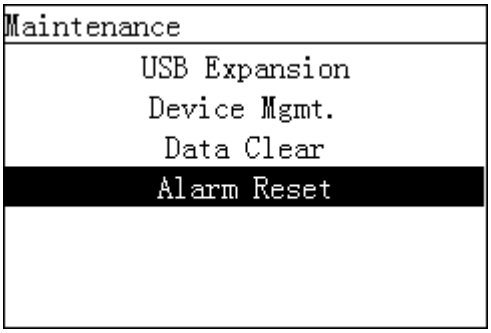
LCD	Procedure
	1. On the default page, press ↵ to enter the main menu.
	2. Select and press ↵.
	3. Enter the **User name** and **Password** by pressing ▲ or ▼, and then press ↵. **NOTE** • Because of the limited permission, select the **User name** as **Advanced User** or **Special User**. The initial password for **Advanced User** and **Special User** is *000001*. If you forget the password, contact Huawei technical support for a dynamic password that is effective only on that current day. Change the password after login. • After passing the permission validation, the system keeps the authentication information for 30 seconds. If you exit from the **Maintenance** page and log in again within 30 seconds, no authentication is required.
	4. Press ▼, choose **Alarm Reset**, and press ↵.

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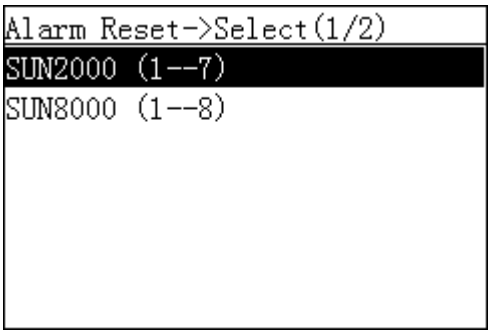
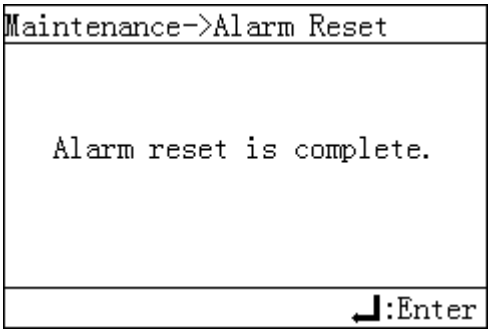
LCD	Procedure
	5. Choose the inverter you want to reset alarms for, press ↵.
	6. After resetting the data, press ↵.

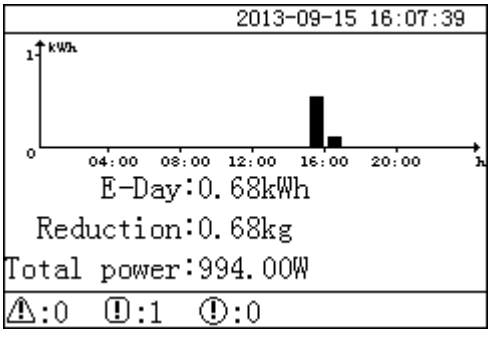
----End

6.2.17 Querying Product Information

This topic describes how to query the information about the SmartLogger on the monitoring panel, including the device type, firmware version, and serial number.

Procedure

- The following table describes the procedure for querying product information. The parameter values in the following figures are for reference only.

LCD	Operation Procedure
	1. On the default page, press ↵ to enter the main menu.

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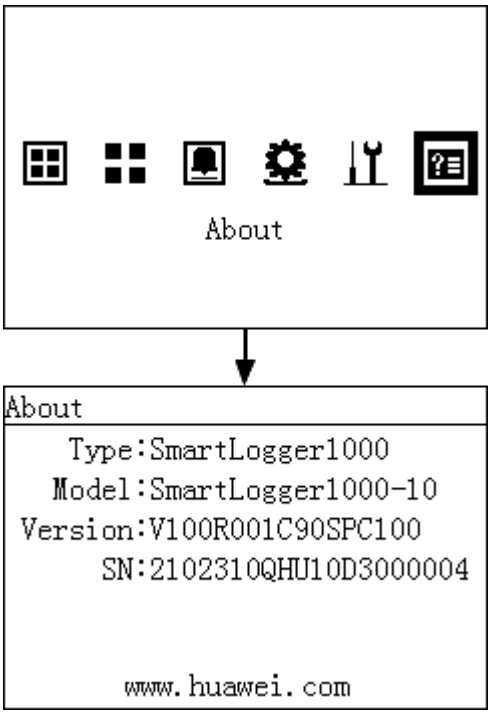
LCD	Operation Procedure
	2. Choose and press . The version information includes **Type**, **Model**, **Version**, and **SN**.

----End

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7 Web User Interface

About This Chapter

This topic describes how to log in to the Web user interface (WebUI) and the WEB menu, and set parameters and maintain devices on the WebUI.

7.1 Preparations for Login

This topic describes the operating environment for the WebUI and the required preparations before you log in to the WebUI.

7.2 Logging In to the WebUI

This topic describes how to log in to the WebUI.

7.3 WebUI Menu

This topic describes the WebUI menu, which allows you to perform operations conveniently.

7.4 Querying System Energy Yield

This topic describes how to query system energy yield, including the daily, monthly, annual, historical, and total energy yield, over the WebUI.

7.5 Querying Current Active Alarms in the System

This topic describes how to query the current active alarms in the system and details about the alarms over the WebUI.

7.6 Querying System Performance Data

This topic describes how to query system performance data, display system performance data in a table or curve, and export system performance data over the WebUI.

7.7 Querying Running Information of Inverters

This topic describes how to query running information, including SN, Version, and Devices Status, of inverters over the WebUI.

7.8 Manually Powering On or Off the Inverter

This topic describes how to power on or off the inverter over the WebUI.

7.9 Querying the Active Alarms of an Inverter

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This topic describes how to query the active alarms of an inverter and details about the alarms over the WebUI.

7.10 Querying the Performance Data of an Inverter

This topic describes how query the performance data of an inverter over the WebUI. You can choose to display the performance data in a table or curve or export it.

7.11 Querying the Energy Yield of Inverters

This topic describes how to query the energy yield of inverters over the WebUI, including the daily, monthly, annual, historical, and total energy yield.

7.12 Setting the Running Parameters of an Inverter

This topic describes how to set the running parameters of an inverter over the WebUI. Due to permission limits, the parameters that can be set by advanced users and special users are different.

7.13 Setting the Power Grid Standard Code for an Inverter

This topic describes how to set the power grid standard code for an inverter over the WebUI.

7.14 Querying the Running Information of an EMI

This topic describes how to query the running information of an environmental monitoring instrument over the WeBUI.

7.15 Querying the Performance Data of an EMI

This topic describes how to query the performance data of an environmental monitoring instrument over the WEBUI. You can choose to display the performance data in a table or curve or export it.

7.16 Querying Historical Alarms

This topic describes how to query historical alarms of the equipment over the WebUI.

7.17 Querying Operation Logs

This topic describes how to query operation logs over the WebUI.

7.18 Exporting Data

This topic describes how to export historical alarms, energy yield, and operation logs over the WebUI.

7.19 Setting Date&Time

This topic describes how to set Time Zone and Date&Time over the WebUI.

7.20 Setting Plant Information

This topic describes how to set plant information over the WebUI, including the plant name and owner and address and nationality of the plant owner.

7.21 Setting Currency Parameters

This topic describes how to set currency parameters, such as Currency and Currency Factor, over the WebUI.

7.22 Setting Ethernet Parameters

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This topic describes how to set Ethernet parameters, including IP Address and DNS server address over the WebUI.

7.23 Setting RS485 Parameters

This topic describes how to set RS485 parameters, including Baud Rate, Start Address, and End Address, over the WebUI.

7.24 Setting EMI Parameters

This topic describes how to set parameters, including Read Function Code, Read Mode, Start Address, and End Address, for the environmental monitoring instrument over the WebUI.

7.25 Setting NetEco Parameters

This topic describes how to set NetEco parameters, including Connect Mode, NetEco IP, and Port, over the WebUI.

7.26 Setting FTP Parameters

This topic describes how to set basic parameters of the FTP server and view the latest report status over the WebUI.

7.27 Setting Email Parameters

This topic describes how to set basic parameters of email and view the latest report status over the WebUI.

7.28 Port Settings

This topic describes how to reset a 3G router by configuring a DO port or USB port.

7.29 Grid Dispatch

This topic describes the power grid dispatching function.

7.30 Upgrading Firmware

This topic describes how to upgrade firmware for the SmartLogger over the WebUI.

7.31 Viewing Product Information

This topic describes how to view SmartLogger information, including SN, Hardware Version, Device Type, and Firmware Version, over the WebUI.

7.32 User Management

This topic describes how to change the password for the active user over the WebUI.

7.33 Exporting Fault Information

This topic describes how to export fault information over the WebUI.

7.1 Preparations for Login

This topic describes the operating environment for the WebUI and the required preparations before you log in to the WebUI.

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Operating Environment

The running environment for the WebUI should meet the following requirements:

- Operating system: Windows
- Browser: Internet Explorer 7.0, Internet Explorer 8.0, Internet Explorer 9.0, Firefox 17.0, Firefox 18.0, Firefox 19.0, Firefox 20.0, Firefox21.0.
- Minimum resolution: 1024 x 768.

Setting the IP Address

Correctly set the IP address, subnet mask, and gateway for the SmartLogger, PC, and network devices.

Setting the LAN

NOTICE

- If the SmartLogger is connected to a local area network (LAN) and a proxy server has been selected, you need to cancel proxy server setting.
- If the SmartLogger is connected to the Internet but the computer is connected to the LAN, you cannot cancel proxy server setting.

To set the LAN, perform the following steps:

1. Open Internet Explorer.
2. Choose **Tools** > **Internet Options**.
3. Click the **Connections** tab and then click **LAN settings**, as shown in Figure 7-1.

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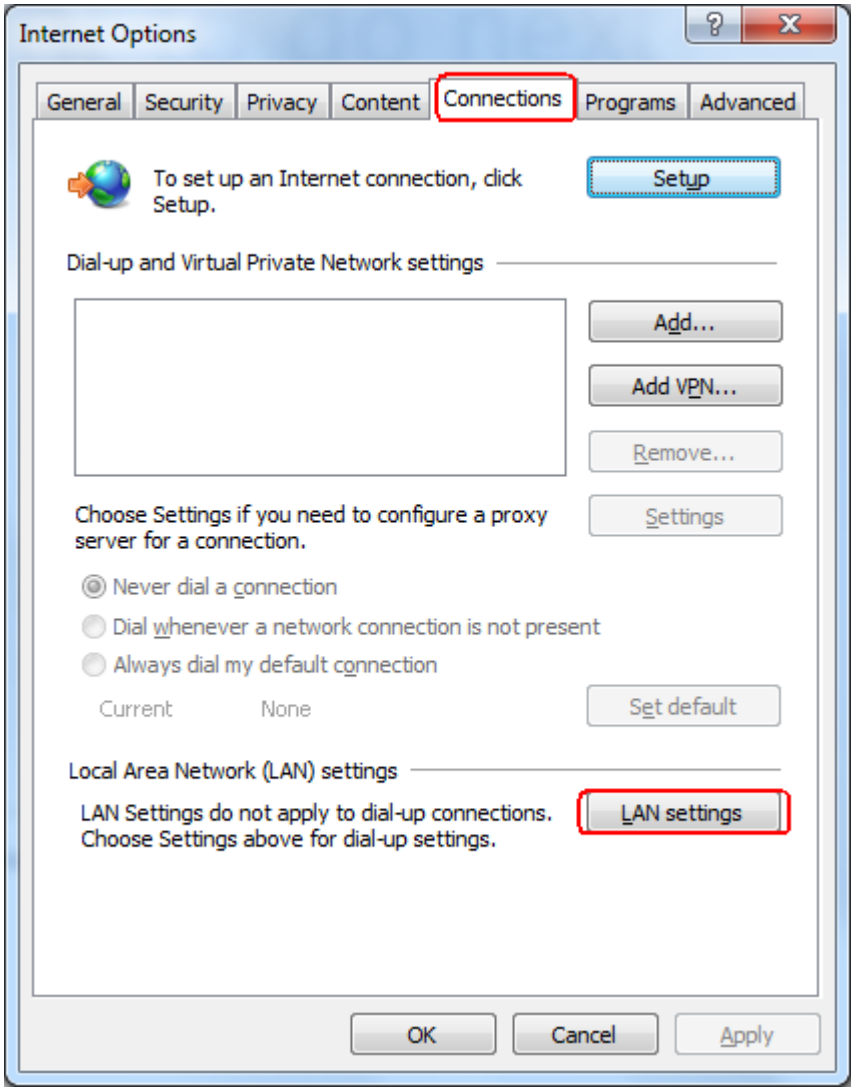
Figure 7-1 LAN settings (1)



4. Deselect the check box under **Proxy server**, as shown in Figure 7-2.

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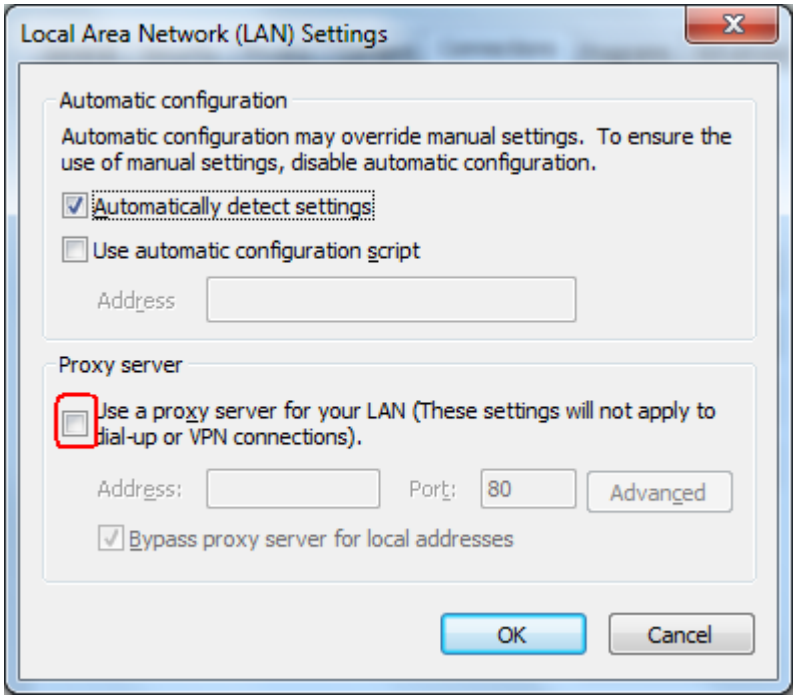
Figure 7-2 LAN settings (2)


Local Area Network (LAN) Settings
Automatic configuration
Automatic configuration may override manual settings. To ensure the use of manual settings, disable automatic configuration.
Automatically detect settings
Use automatic configuration script
Address
Proxy server
Use a proxy server for your LAN (These settings will not apply to dial-up or VPN connections).
Address:
Port:
80
Advanced
Bypass proxy server for local addresses
OK
Cancel

5. Click **OK** to finish the LAN settings.

Setting Internet Explorer Security

NOTICE

If you need to export the fault information and operation logs, set Internet Explorer security.

To set Internet Explorer security, perform the following steps:

1. Open Internet Explorer.
2. Choose **Tools** > **Internet Options**.
3. Click the **Security** tab.
4. Click **Internet** > **Custom level** as shown in Figure 7-3. After set **Internet**, please set **Local intranet** in the same method.

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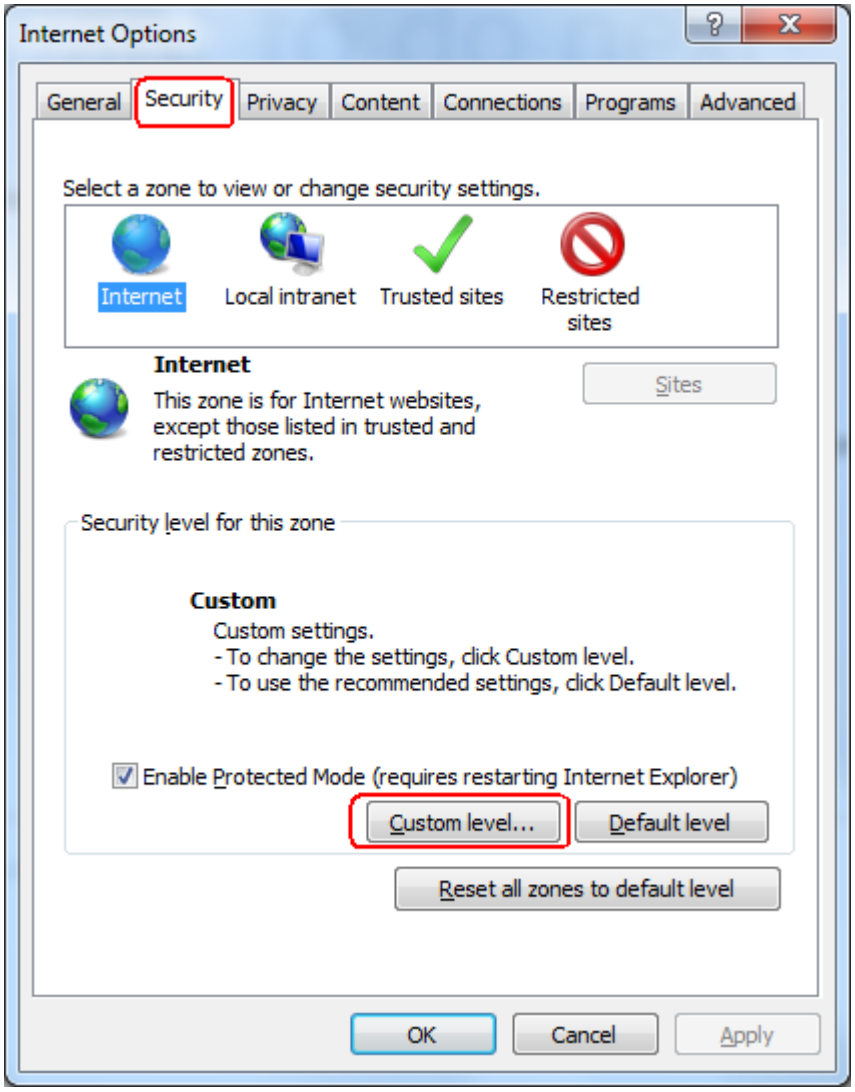
Figure 7-3 Internet Explorer security (1)



5. Enable **Allow previously unused ActiveX controls to run without prompt**, as shown in Figure 7-4.

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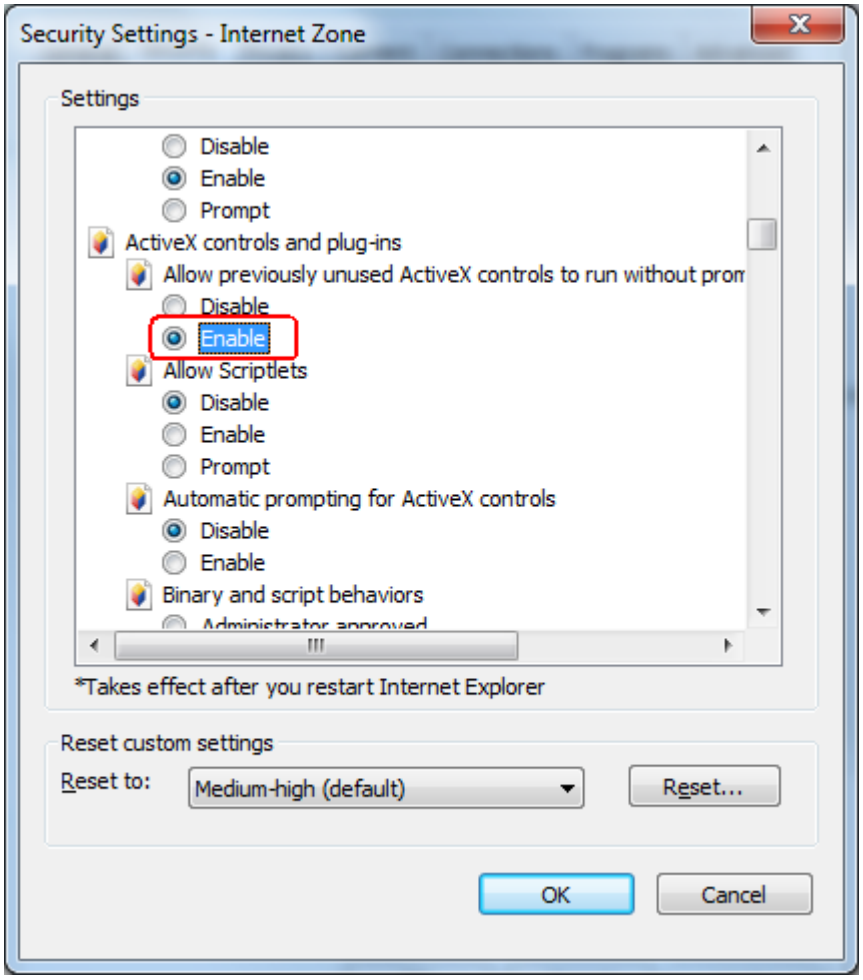
Figure 7-4 Setting Internet Explorer security (1)



6. Enable **Automatic prompting for file downloads**, as shown in Figure 7-5.

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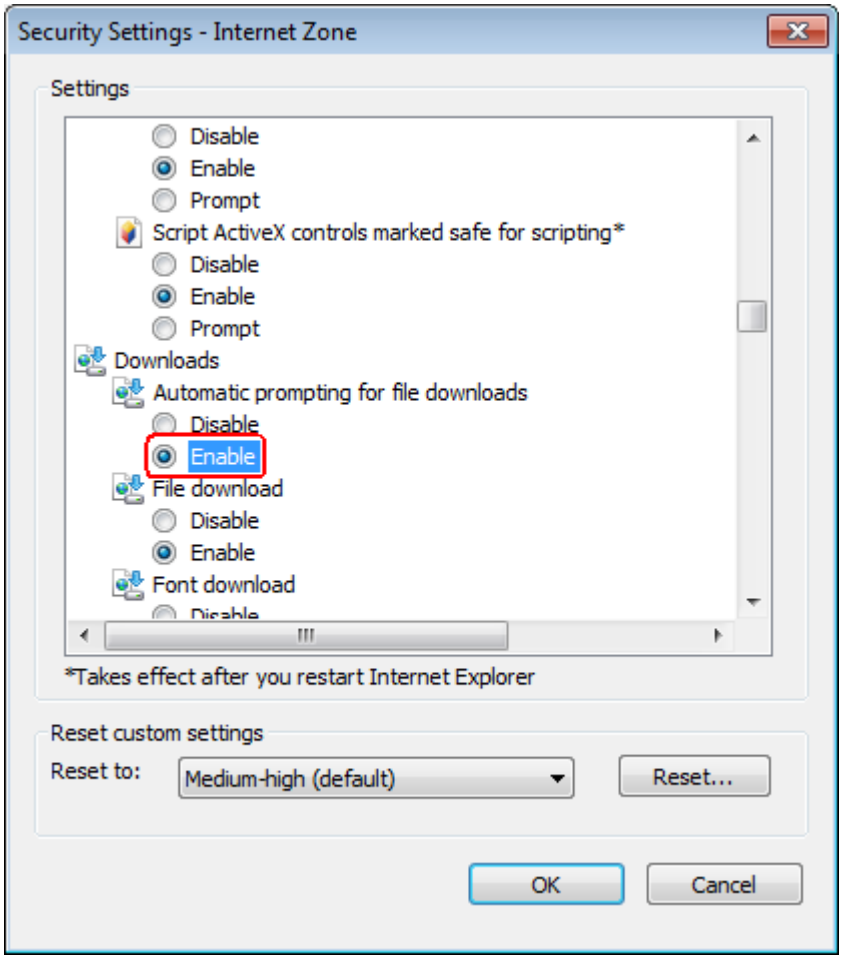
Figure 7-5 Setting Internet Explorer security (2)



7. Select **Security** and click **Sites** in **Trusted sites**, as shown in Figure 7-6.

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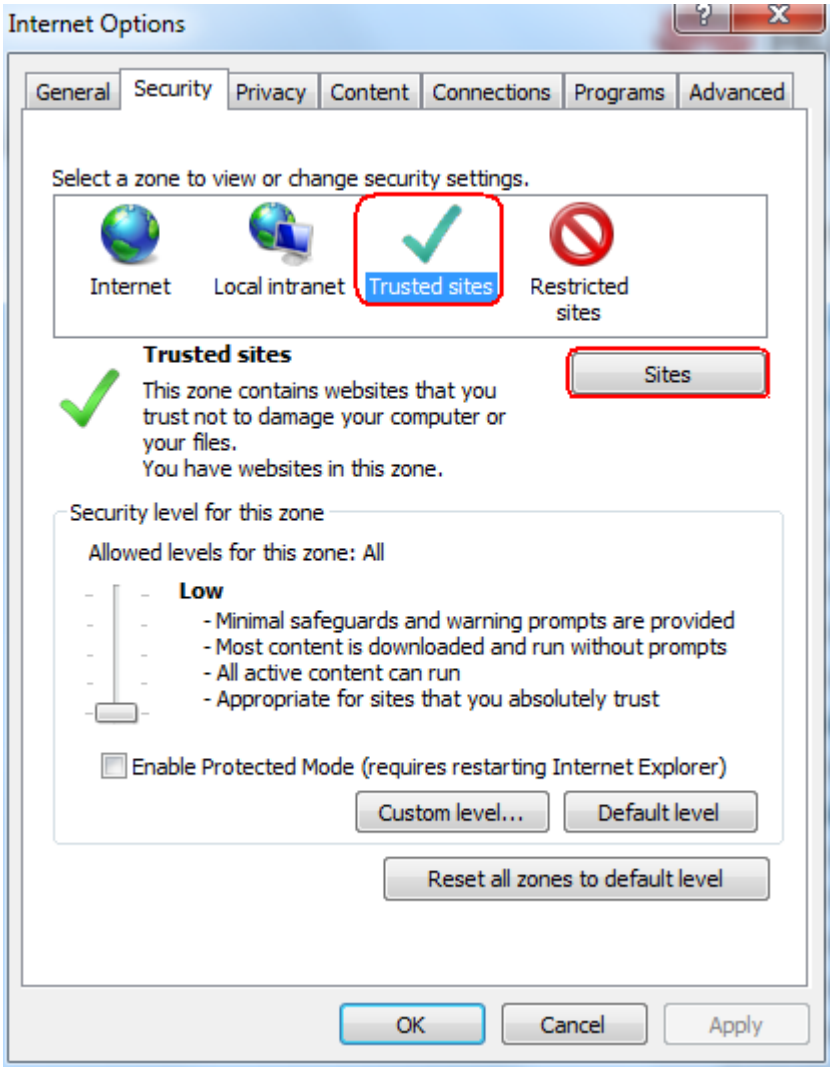
Figure 7-6 Internet Explorer security (2)



8. After entering the Web address (namely, the IP address for the SmartLogger), click **Add**, as shown in Figure 7-7.

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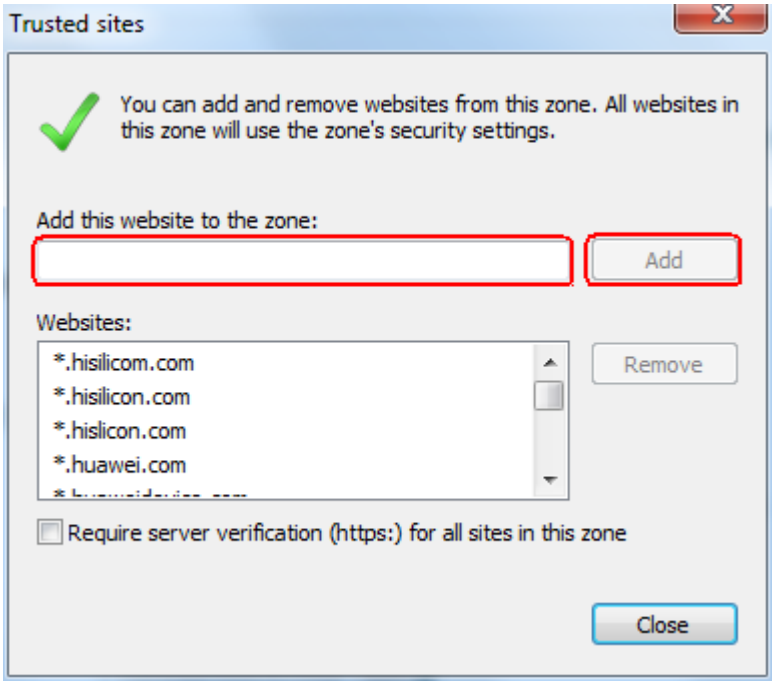
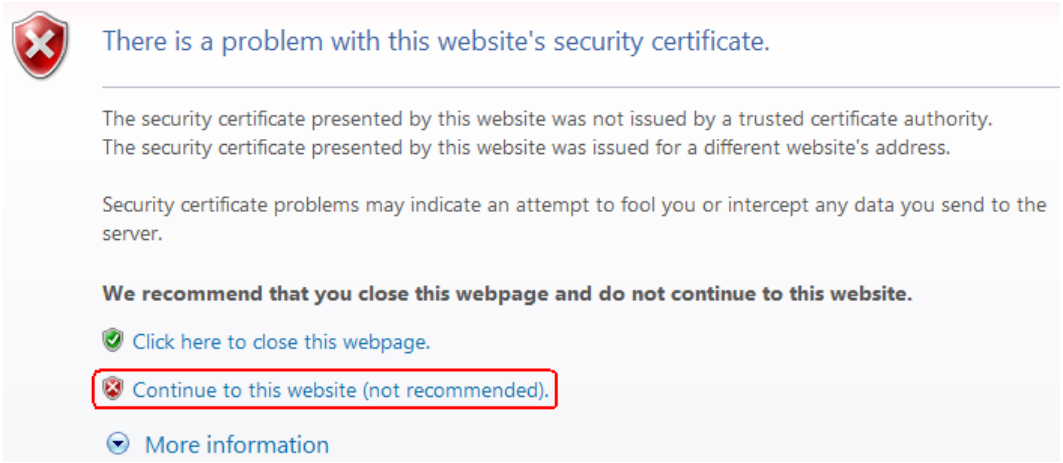
Figure 7-7 Internet Explorer security (3)



Installing a Security Certificate

1. If you log in to the WebUI for the first time, a message as shown in Figure 7-8 is displayed. Click **Continue to this website**.

Figure 7-8 Installing the security certificate (1)


There is a problem with this website's security certificate.
The security certificate presented by this website was not issued by a trusted certificate authority.
The security certificate presented by this website was issued for a different website's address.
Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.
We recommend that you close this webpage and do not continue to this website.
Click here to close this webpage.
Continue to this website (not recommended).
More information

2. Click **Certificate Error** on the right of the address bar and choose **View certificates**, as shown in Figure 7-9.

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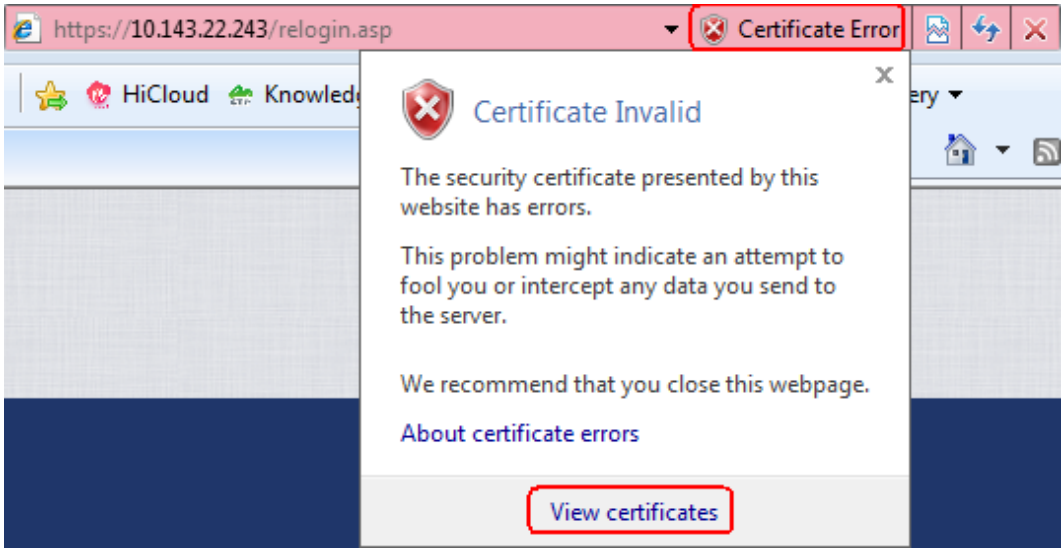
Figure 7-9 Installing the security certificate (2)


https://10.143.22.243/relogin.asp
Certificate Error
HiCloud
Certificate Invalid
The security certificate presented by this website has errors.
This problem might indicate an attempt to fool you or intercept any data you send to the server.
We recommend that you close this webpage.
About certificate errors
View certificates

3. Click **Install Certificate**, as shown in Figure 7-10.

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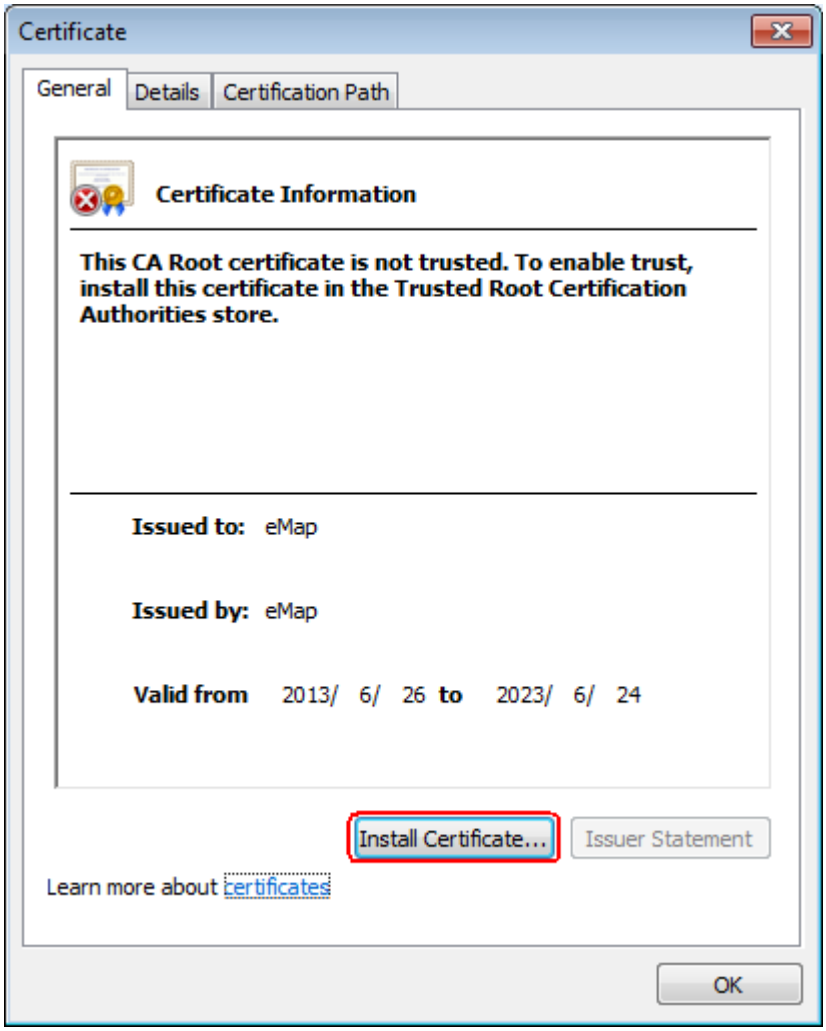
Figure 7-10 Installing the security certificate (3)



4. Click **Next**.
5. Select **Place all certificates in the following store** and click **Browse**, as shown in Figure 7-11.

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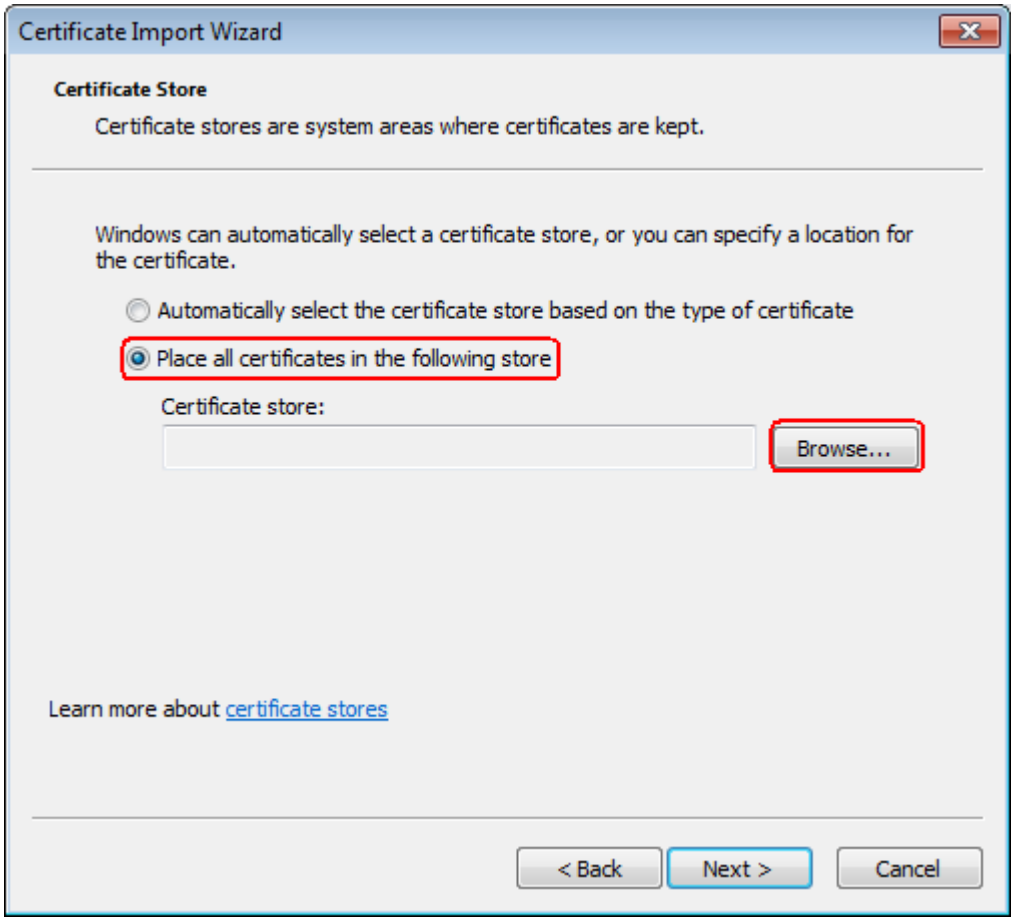
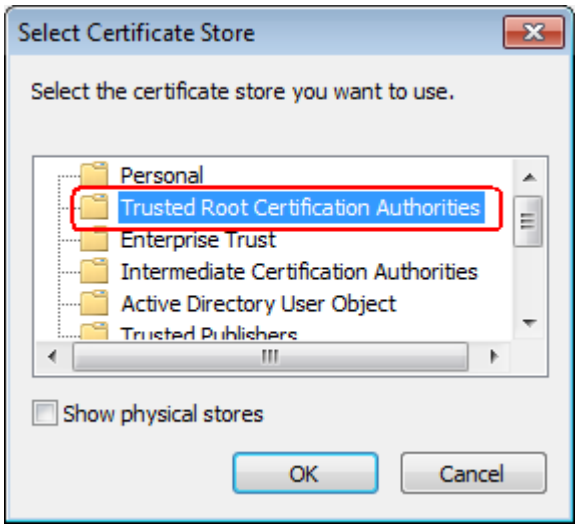
Figure 7-11 Installing the security certificate (4)


Certificate Import Wizard
Certificate Store
Certificate stores are system areas where certificates are kept.
Windows can automatically select a certificate store, or you can specify a location for the certificate.
Automatically select the certificate store based on the type of certificate
Place all certificates in the following store
Certificate store:
Browse...
Learn more about certificate stores
< Back
Next >
Cancel

6. Select **Trusted Root Certification Authorities** and click **OK**, as shown in Figure 7-12.

Figure 7-12 Installing the security certificate (5)



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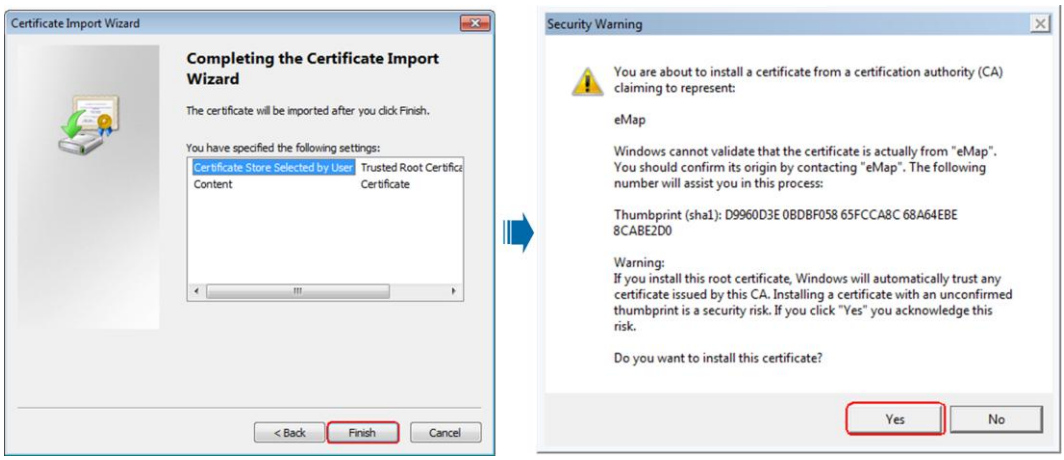
7. Click **Next**.
8. Click **Finish**. A security warning dialog box is displayed. Click **Yes**, as shown in Figure 7-13.

Figure 7-13 Installing the security certificate (6)


Certificate Import Wizard
Completing the Certificate Import Wizard
The certificate will be imported after you click Finish.
You have specified the following settings:
Certificate Store Selected by User
Trusted Root Certifica
Content
Certificate
< Back
Finish
Cancel
Security Warning
You are about to install a certificate from a certification authority (CA) claiming to represent:
eMap
Windows cannot validate that the certificate is actually from "eMap". You should confirm its origin by contacting "eMap". The following number will assist you in this process:
Thumbprint (sha1): D9960D3E 0BDBF058 65FCCA8C 68A64EBE 8CABE2D0
Warning:
If you install this root certificate, Windows will automatically trust any certificate issued by this CA. Installing a certificate with an unconfirmed thumbprint is a security risk. If you click "Yes" you acknowledge this risk.
Do you want to install this certificate?
Yes
No

7.2 Logging In to the WebUI

This topic describes how to log in to the WebUI.

Procedure

Step 1 Connect the SmartLogger to a PC directly or over the Internet. For details about this operation, see 4.4 Connecting the SmartLogger to a PC.

Step 2 Set the IP address, subnet mask, and gateway on the LCD of the SmartLogger.

Step 3 Enter the IP address for the SmartLogger in the browser, enter the correct **User name** and **Password**, and select **Language**. Click **Login** to enter the main page, as shown in Figure 7-14.

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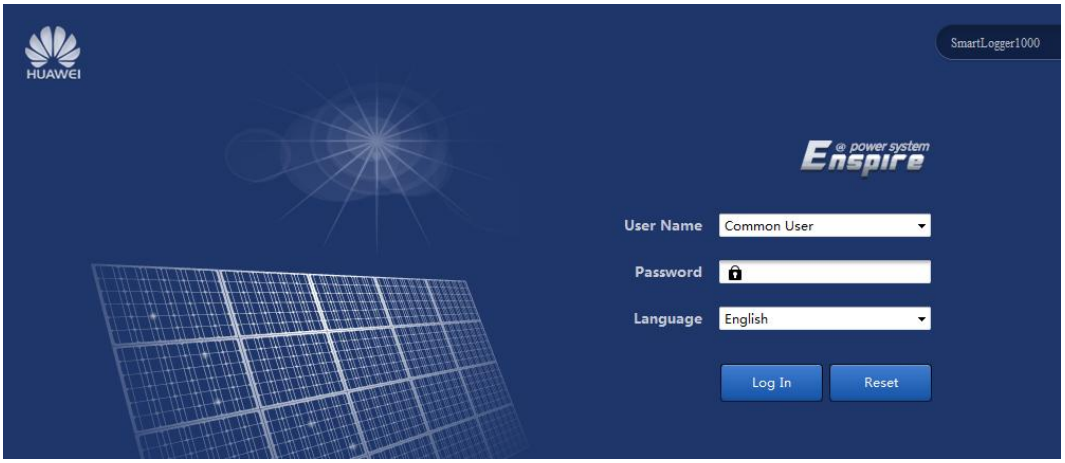
Figure 7-14 Login page of the WebUI



NOTE

- There are three roles of the system user: **Common User**, **Advanced User** and **Special User**. The initial password for **Common User**, **Advanced User** and **Special User** is *000001*.
- If you enter a wrong password for six times in five minutes, a message "Repeat check fail several times, this account have been locked, please login after an hour!" is displayed.
- If you log in to the SmartLogger for the first time, use the initial password to log in and change the password immediately to ensure the account security.

----End

7.3 WebUI Menu

This topic describes the WebUI menu, which allows you to perform operations conveniently.

The WebUI menu consists of five parts: **Over View**, **Monitoring**, **Query**, **Settings** and **Maintenance**. Different identities (**Common User**, **Advanced User**, and **Special User**) have different permissions for setting parameters and maintenance, as shown in Figure 7-15 and Figure 7-16.

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Figure 7-15 Structure of the main menu

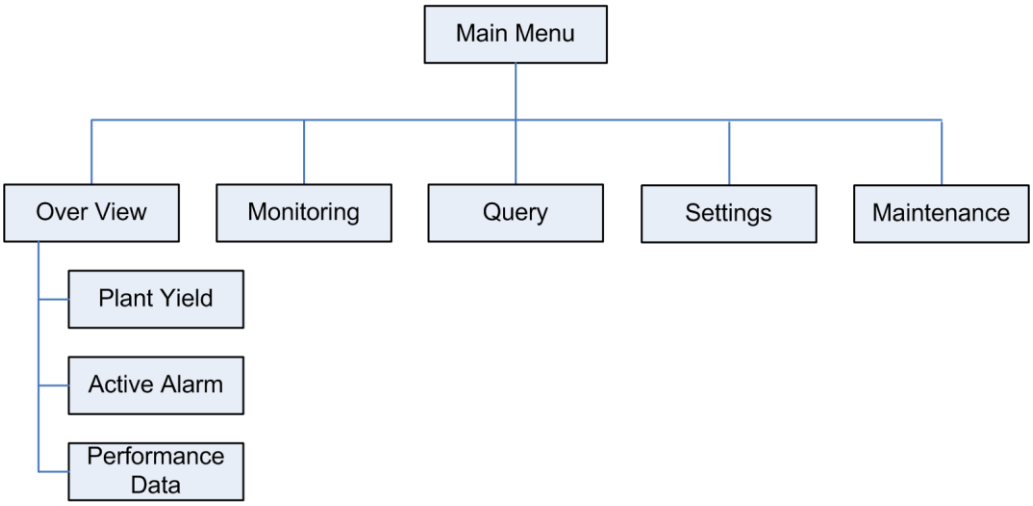

Figure 7-16 shows the information available on the **Monitoring** tab page based on user rights.

Figure 7-16 Information available on the Monitoring tab page based on user rights

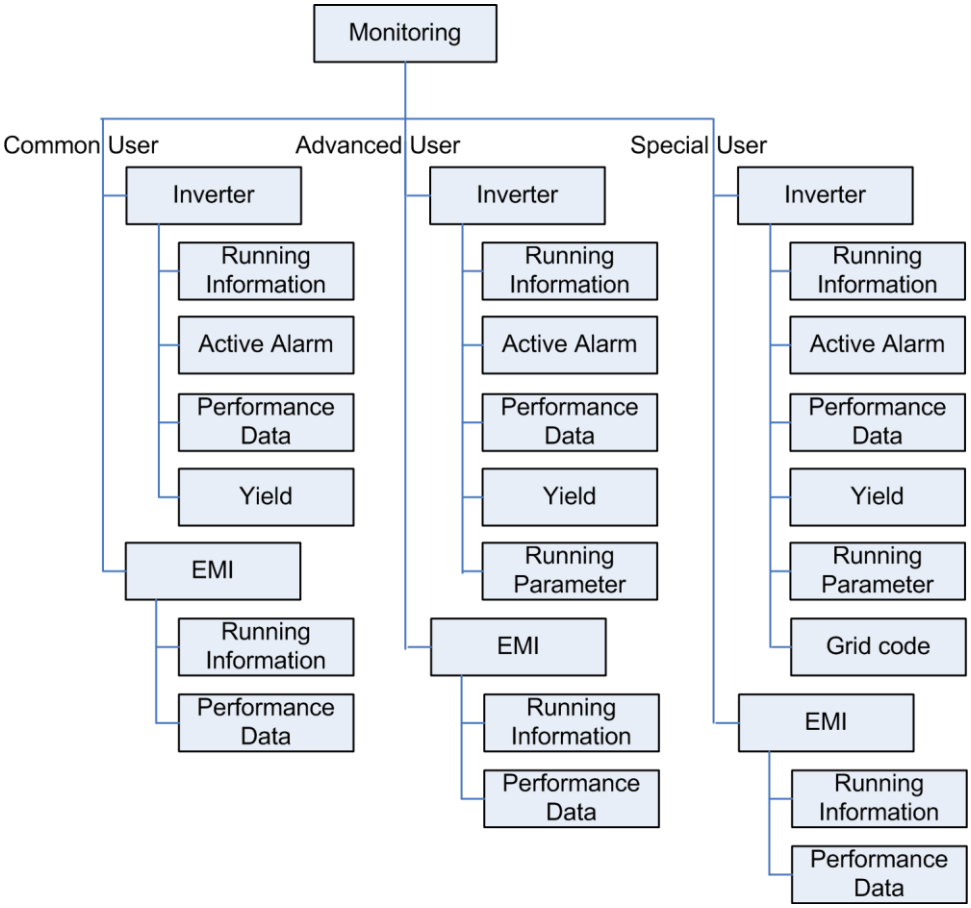

Figure 7-17 shows the information available on the **Query** tab page based on user rights.

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Figure 7-17 Information available on the Query tab page based on user rights

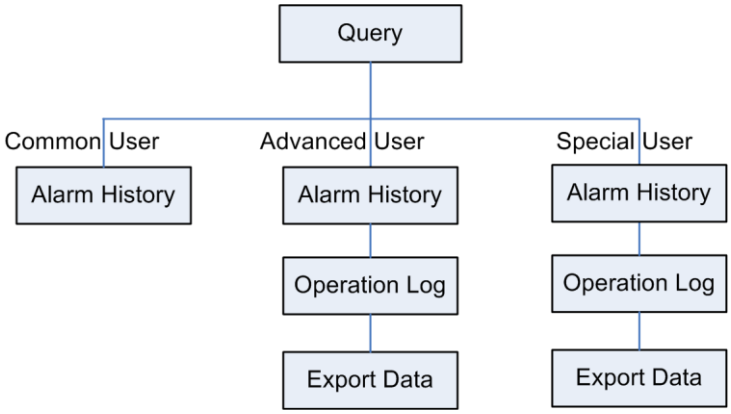

Figure 7-18 shows the information available on the **Settings** tab page based on user rights.

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Figure 7-18 Information available on the Settings tab page based on user rights

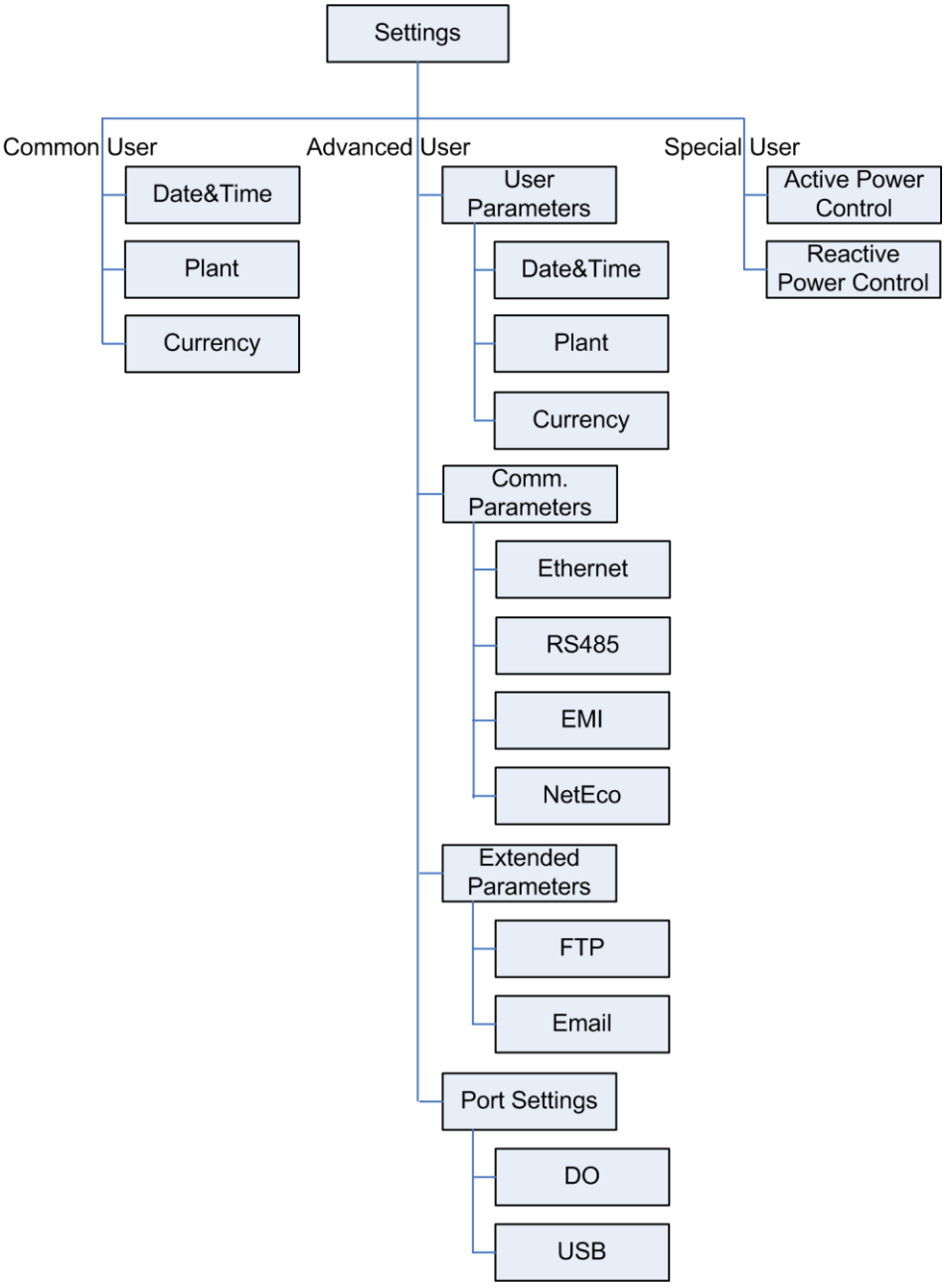

Figure 7-19 shows the information available on the **Maintenance** tab page based on user rights.

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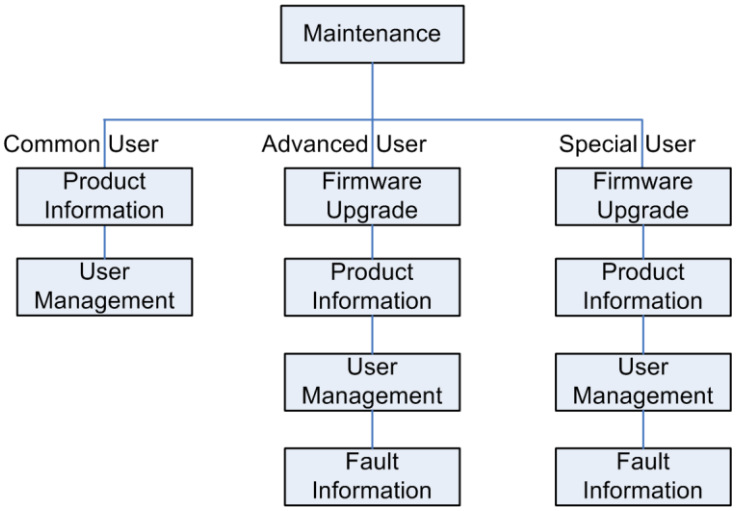
Figure 7-19 Information available on the Maintenance tab page based on user rights



7.4 Querying System Energy Yield

This topic describes how to query system energy yield, including the daily, monthly, annual, historical, and total energy yield, over the WebUI.

On the **Over View** tab page, click **Plant Yield** and query the system energy yield.

NOTE

When you query system energy yield, select a date from the **Time** drop-down list box or adjust the date by clicking the buttons on both sides of the drop-down list box.

Total Energy Yield

On the **Total** tab page, **E-Total**, **CO_2 Reduction**, and **Revenue** are displayed, as shown in Figure 7-20.

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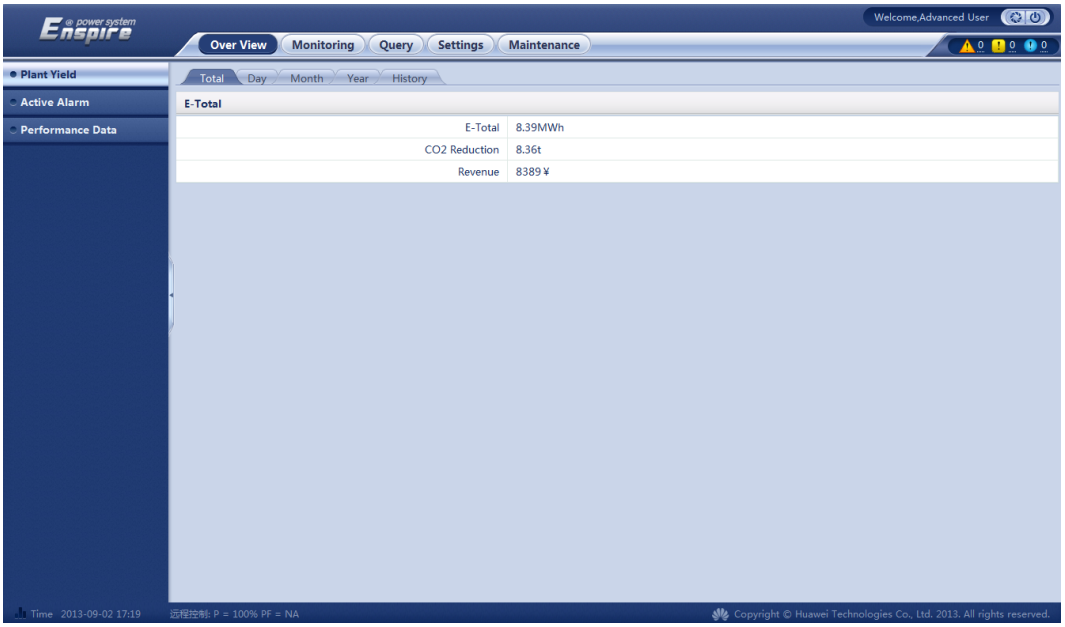
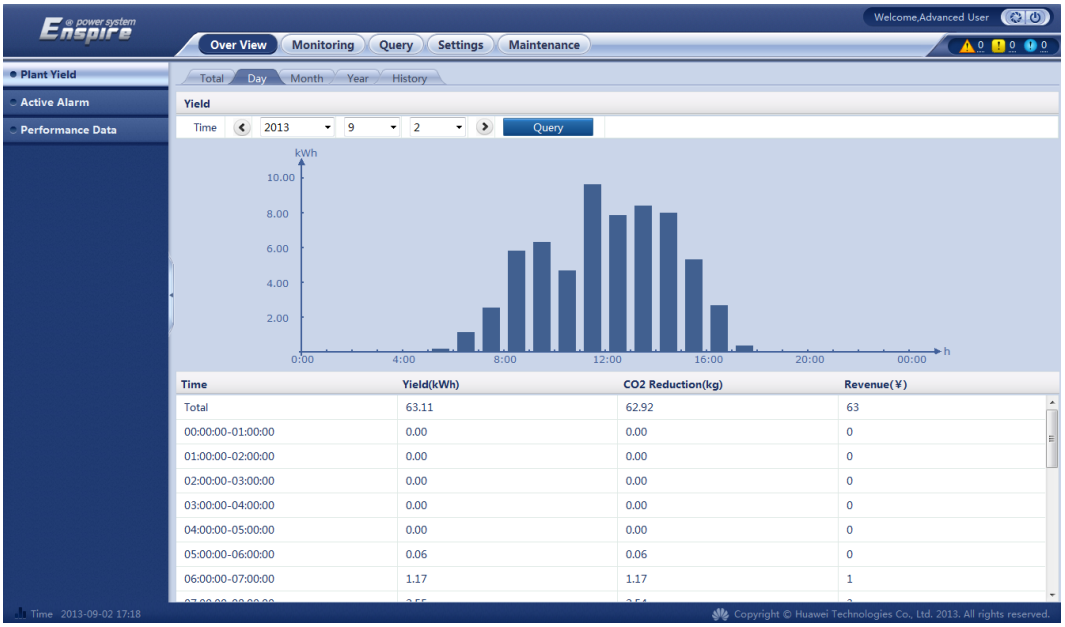
Figure 7-20 Total energy yield



Daily Energy Yield

On the **Day** tab page, set **Time** and click **Query**. The daily and hourly energy yield are displayed, as shown in Figure 7-21.

Figure 7-21 Daily energy yield



The following information is displayed: energy yield column graph, hourly energy yield, CO_2 emission reduction, revenue, and total values.

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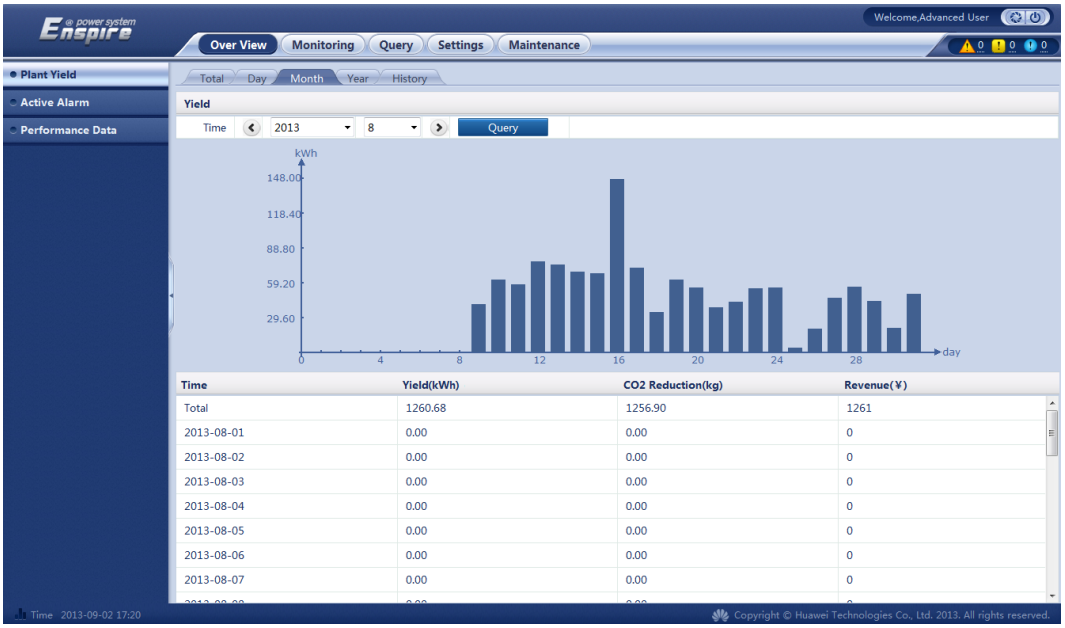
NOTE

In the daily energy yield column graph, the horizontal axis indicates time (by hour), and the vertical axis indicates energy yield. Each column indicates the total energy yield within an hour before an integer time point.

Monthly Energy Yield

On the **Month** tab page, set **Time** and click **Query**. The monthly and daily energy yield are displayed, as shown in Figure 7-22.

Figure 7-22 Monthly energy yield



The following information is displayed: energy yield column graph, daily energy yield, CO_2 emission reduction, revenue, and total values.

NOTE

In the monthly energy yield column graph, the horizontal axis indicates time (by day), and the vertical axis indicates energy yield. Each column indicates the total energy yield of a day.

Annual Energy Yield

On the **Year** tab page, set **Time** and click **Query**. The annual and monthly energy yield are displayed, as shown in Figure 7-23.

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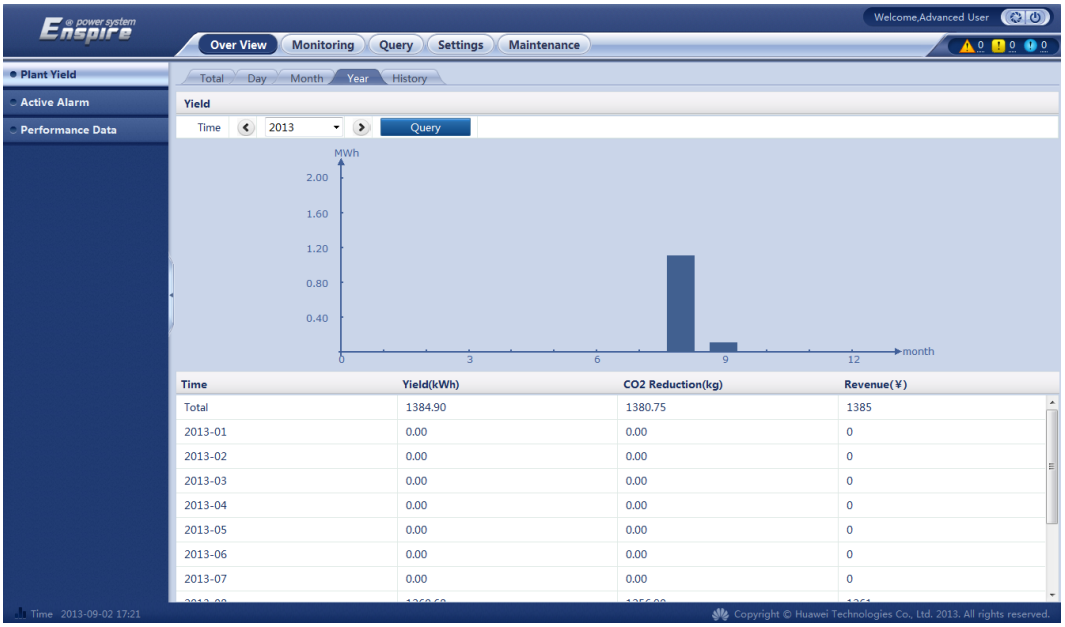
Figure 7-23 Annual energy yield



The following information is displayed: energy yield column graph, monthly energy yield, CO_2 emission reduction, revenue, and total values.

NOTE

In the annual energy yield column graph, the horizontal axis indicates time (by month), and the vertical axis indicates energy yield. Each column indicates the total energy yield of a month.

Historical Energy Yield

On the **History** tab page, the total and annual energy yield of the past 25 years are displayed, as shown in Figure 7-24.

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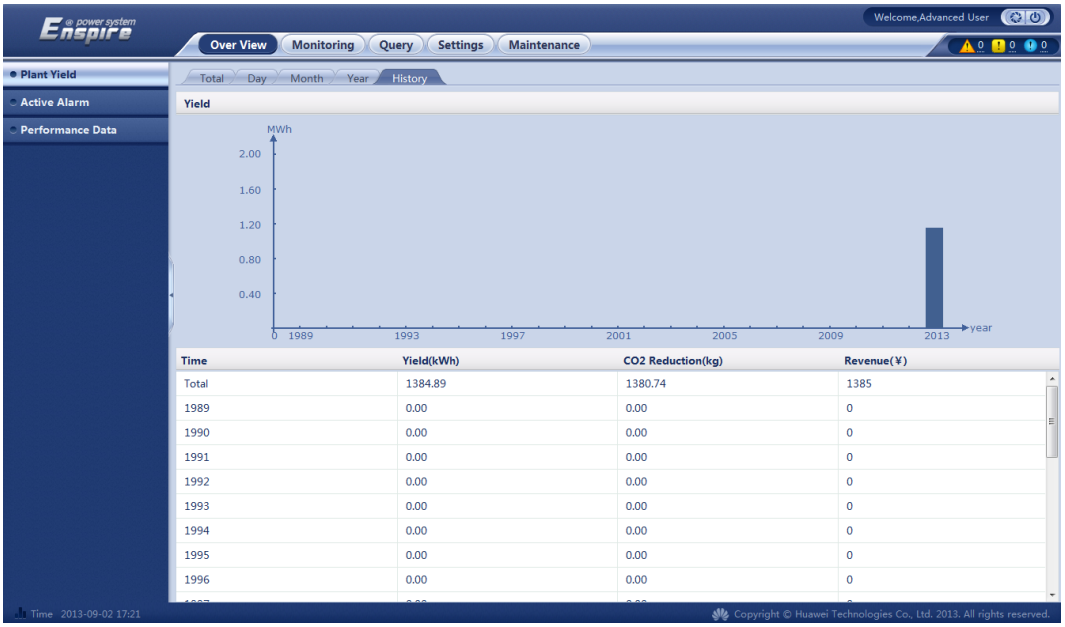
Figure 7-24 Historical energy yield



The following information is displayed: energy yield column graph, annual energy yield, CO_2 emission reduction, revenue, and total values.

NOTE

In the historical energy yield column graph, the horizontal axis indicates time (by year), and the vertical axis indicates energy yield. Each column indicates the total energy yield of a year.

7.5 Querying Current Active Alarms in the System

This topic describes how to query the current active alarms in the system and details about the alarms over the WebUI.

On the **Over View** tab page, choose **Active Alarm** to access the active-alarm query page. You can query the information about all the current active alarms in the system on this page, including the values of **Alarm ID**, **Severity**, **Equipment**, **Alarm Name**, **Generation Time**, **Reason ID**, and **Cabinet**.

On the **Active Alarm** tab page, choose the equipment to be queried and alarm severity and click **Filter**, as shown in Figure 7-25.

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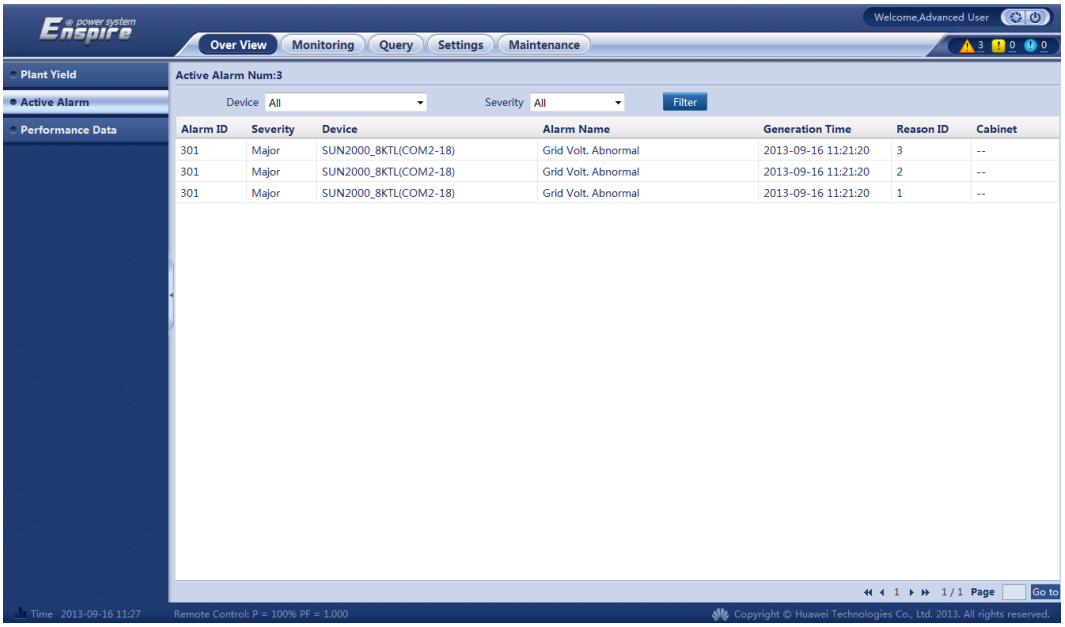
Figure 7-25 Active system alarm


Welcome,Advanced User
Over View
Monitoring
Query
Settings
Maintenance
Plant Yield
Active Alarm
Performance Data
Active Alarm Num:3
Device All
Severity All
Filter
Alarm ID Severity Device Alarm Name Generation Time Reason ID Cabinet
301 Major SUN2000_8KTL(COM2-18) Grid Volt. Abnormal 2013-09-16 11:21:20 3 --
301 Major SUN2000_8KTL(COM2-18) Grid Volt. Abnormal 2013-09-16 11:21:20 2 --
301 Major SUN2000_8KTL(COM2-18) Grid Volt. Abnormal 2013-09-16 11:21:20 1 --
1 / 1 Page Go to
Time 2013-09-16 11:27
Remote Control: P = 100% PF = 1.000
Copyright © Huawei Technologies Co., Ltd. 2013. All rights reserved.

NOTE

You can also quickly determine the severity and quantity of current active alarms by viewing the alarm icons and values in the upper right corner of the WebUI. By clicking a value behind an alarm icon, you can directly access the active system alarm page.

7.6 Querying System Performance Data

This topic describes how to query system performance data, display system performance data in a table or curve, and export system performance data over the WebUI.

On the **Over View** tab page, click **Performance Data**. The performance data querying page is displayed.

NOTE

When you query system performance data, select a date from the **Time** drop-down list box or adjust the date by clicking the buttons on both sides of the drop-down list box.

Select **Table**, set **Time**, and click **Query**. You can query the values of various performance parameters, such as **Generation Time**, **Day yield of plant** and **AC Power of plant**, as shown in Figure 7-27.

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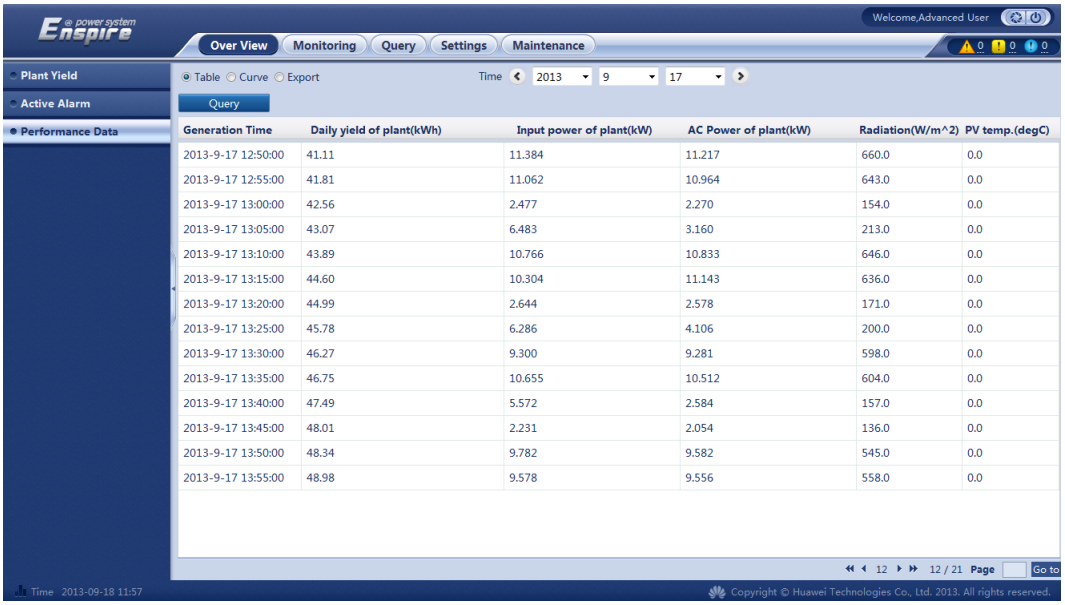
Figure 7-26 Performance data displayed in a table



NOTE

Select **Curve**, set **Time**, **Y1**, and **Y2**, and click **Query**, as shown in Figure 7-27.

NOTICE

You can compare the curves of two parameters by selecting **Y1** and **Y2** at the same time. However, the values of **Y1** and **Y2** must be different.

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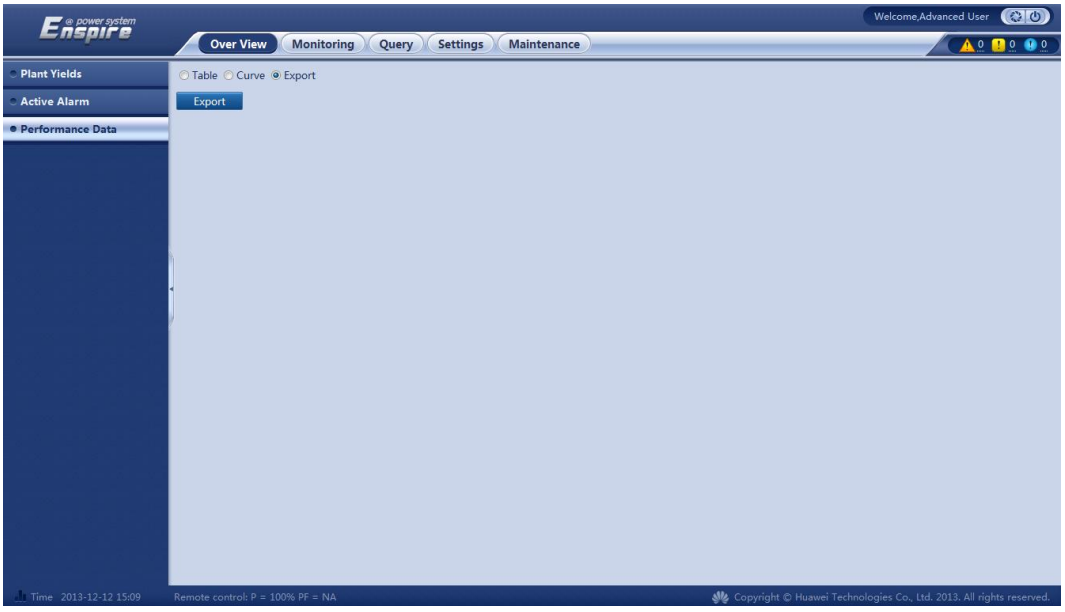
Figure 7-27 Performance data displayed in a curve

Select **Export** and click **Export**. Performance data is exported, as shown in Figure 7-28.

Figure 7-28 Exporting performance data



7.7 Querying Running Information of Inverters

This topic describes how to query running information, including SN, Version, and Devices Status, of inverters over the WebUI.

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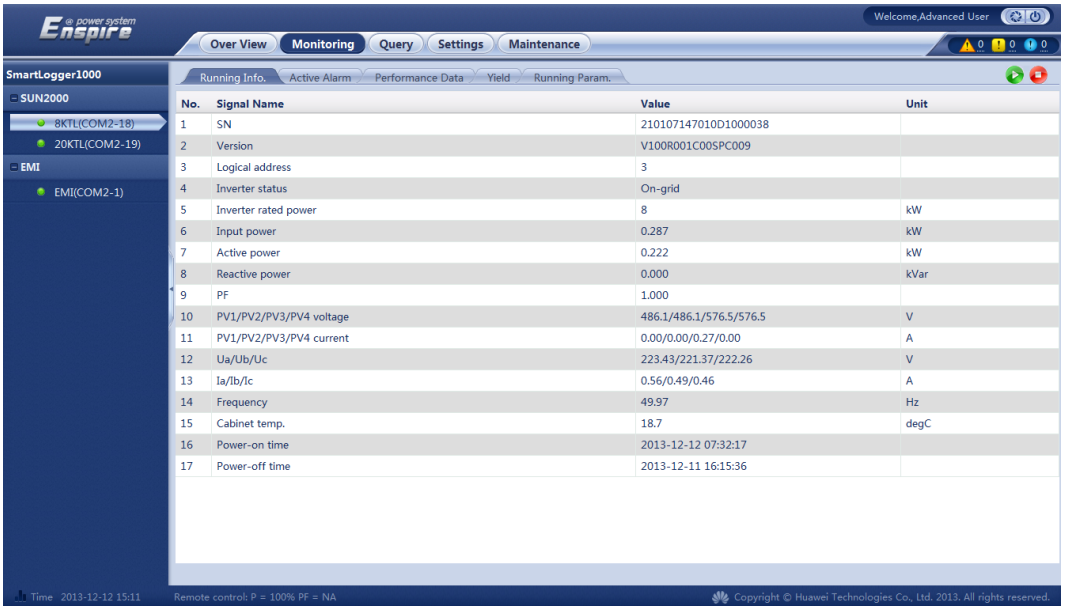
Querying Running Information

On the **Monitoring** tab page, select an inverter, and click **Running Information**. **SN**, **Version**, and **Devices Status** are displayed, as shown in Figure 7-29.

Figure 7-29 Running information of an inverter



Querying Device Status

Names and status of devices connected to the SmartLogger are displayed in the left pane of the **Monitoring** tab page.

The indicator in front of the device name indicates the current status of a device.

- When the indicator is , the inverter is in the **On-grid** state, and the environmental monitoring instrument is in the **Online** state.
- When the indicator is , the inverter or EMI is in the **Disconnection** state.
- When the indicator is , the inverter is in the **Loading** state.
- When the indicator is , the inverter is in a non-on-grid state, for example, **Initializing**, **Shutdown**, or **Idle** state.

7.8 Manually Powering On or Off the Inverter

This topic describes how to power on or off the inverter over the WebUI.

On the **Monitoring** tab page, choose the inverter to be powered on or off and click **Running Information**. The power-on and power-off buttons are located in the upper right corner of the tab page. The green one is the power-on button and the red one is the power-off button, as shown in Figure 7-30.

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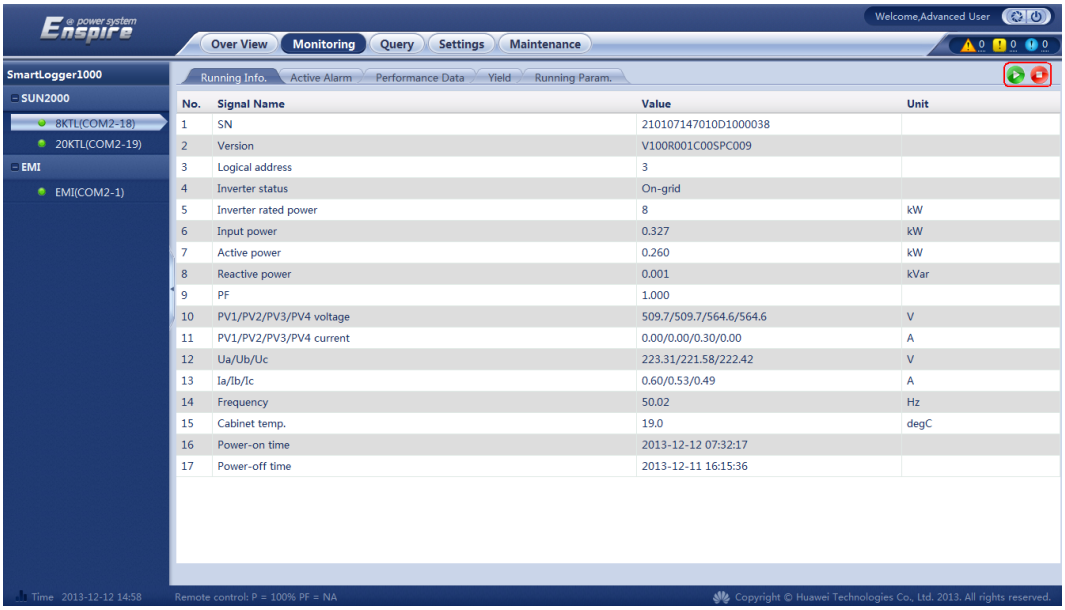
Figure 7-30 Manually powering on or off the inverter



NOTE

When you click the power-on or power-off button, the system displays a prompt asking whether to power on or off the inverter. If you are sure, click **OK**.

7.9 Querying the Active Alarms of an Inverter

This topic describes how to query the active alarms of an inverter and details about the alarms over the WebUI.

On the **Monitoring** tab page, choose the inverter to be queried and click **Active Alarm** to access the active-alarm query page. You can query the information about all the current active alarms of the selected inverter on this page, including the values of **Alarm ID**, **Severity**, **Alarm Name**, **Generation Time**, **Reason ID**, and **Cabinet**.

On the **Active Alarm** tab page, choose an alarm severity and click **Filter**, as shown in Figure 7-31.

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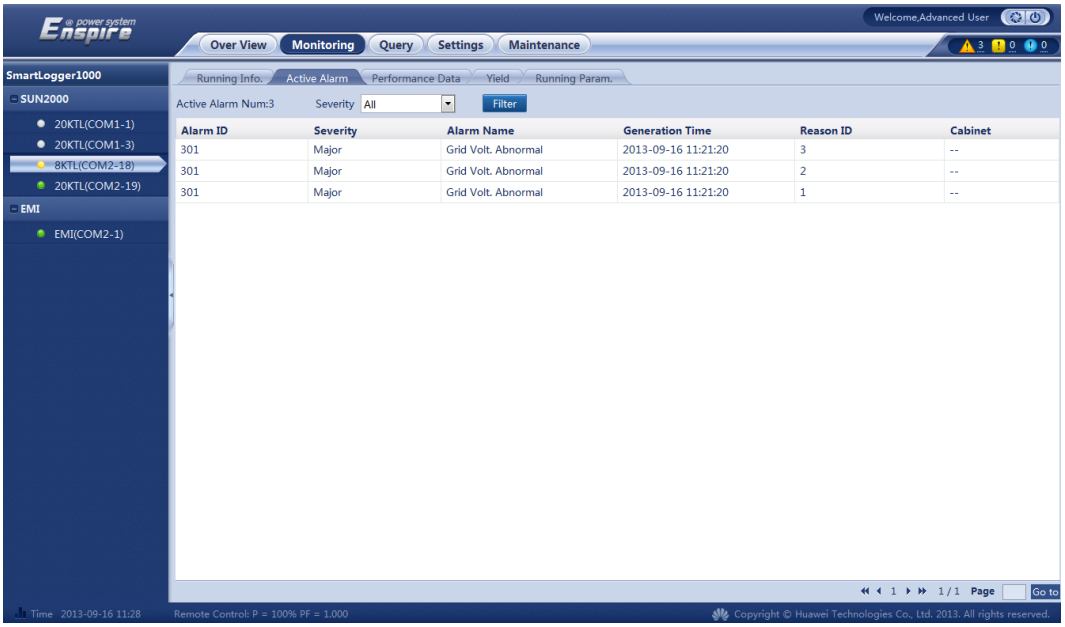
Figure 7-31 Active alarms of the inverter



7.10 Querying the Performance Data of an Inverter

This topic describes how query the performance data of an inverter over the WebUI. You can choose to display the performance data in a table or curve or export it.

On the **Monitoring** tab page, choose the inverter to be queried and click **Performance Data** to access the performance data query page.

NOTE

- When querying the performance data of an inverter, you can select a period in which the performance data you want to query directly from the **Time** drop-down list or by clicking the time adjustment buttons on both sides of the drop-down list box.
- Valid performance data of at most one month is stored for each inverter.

Select **Table** as the display mode, select a period in which the performance data you want to query, and click **Query**. You can query the values of various performance parameters, such as **Generation Time**, **Inverter Status**, and **Daily yield**, as shown in Figure 7-33.

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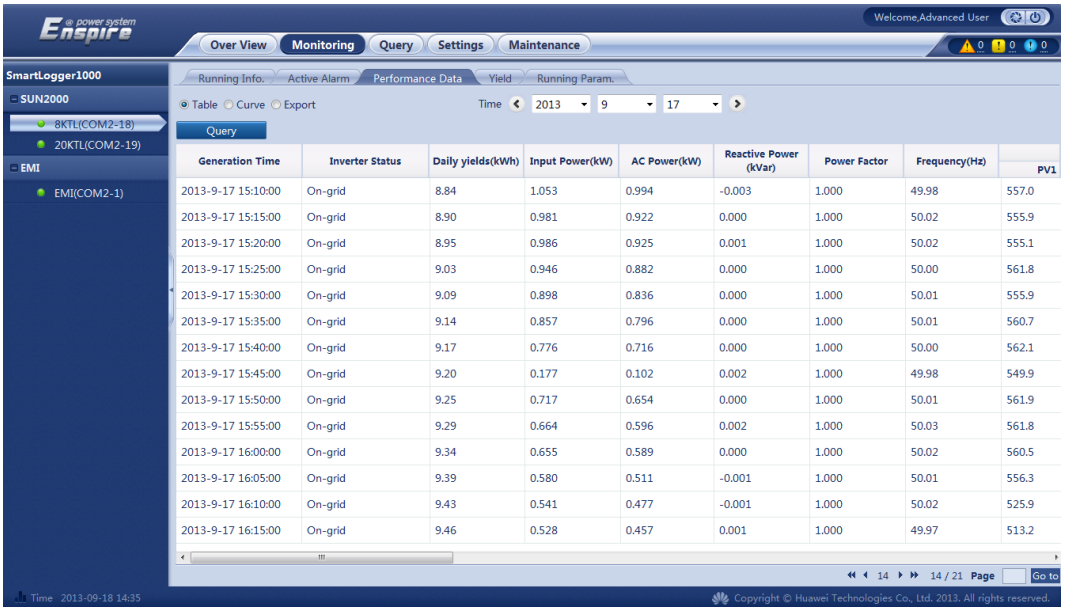
Figure 7-32 Performance data displayed in a table



Select **Curve** as the display mode, select a period in which the performance data you want to query, specify the parameters indicated by Y1 and Y2, and click **Query**, as shown in Figure 7-33.

NOTICE

You can specify two parameters respectively indicated by Y1 and Y2 simultaneously to compare the value curves of the two parameters. However, the two parameters must be different.

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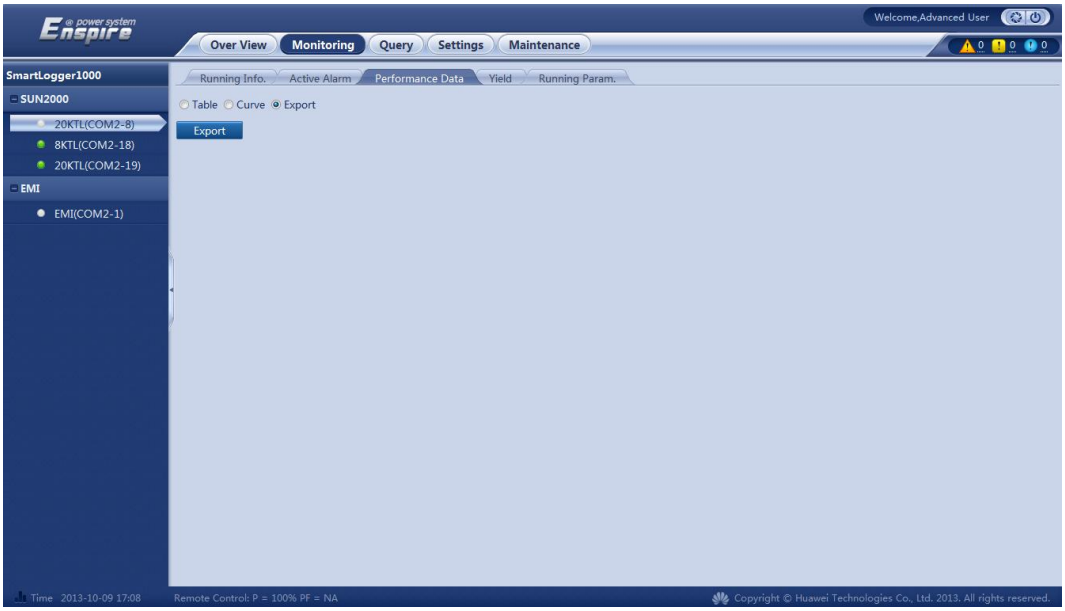
Figure 7-33 Performance data displayed in a curve

You can select **Export** as the display mode and click **Export** to export the performance data, as shown in Figure 7-34.

Figure 7-34 Exporting performance data



7.11 Querying the Energy Yield of Inverters

This topic describes how to query the energy yield of inverters over the WebUI, including the daily, monthly, annual, historical, and total energy yield.

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On the **Monitoring** tab page, you can choose the inverter to be queried and click **Yield** to query the information about the energy yield of the inverter.

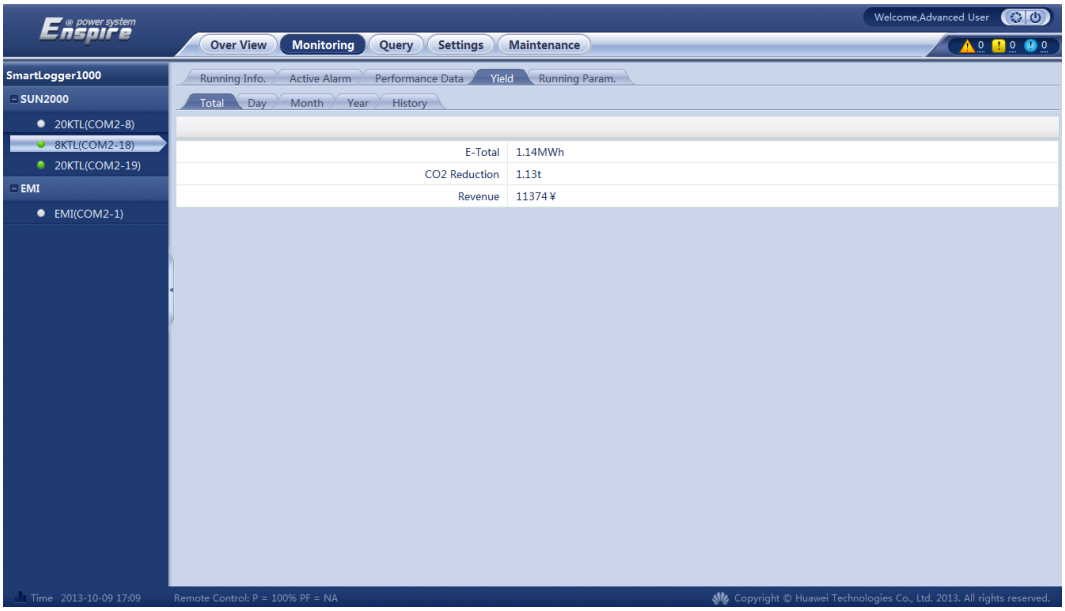
NOTICE

When querying the information about energy yield, you can select a period in which the energy yield you want to query directly from the **Time** drop-down list or by clicking the time adjustment buttons on both sides of the drop-down list box.

Total Energy Yield of Inverters

On the **Total** tab page, you can query various information, such as the total energy yield of inverters, CO_2 emission reduction, and revenue corresponding to the CO_2 emission reduction, as shown in Figure 7-35.

Figure 7-35 Total energy yield



Daily Energy Yield of Inverters

On the **Day** tab page, you can select a day and click **Query** to query the total and hourly energy yield of that day, as shown in Figure 7-36.

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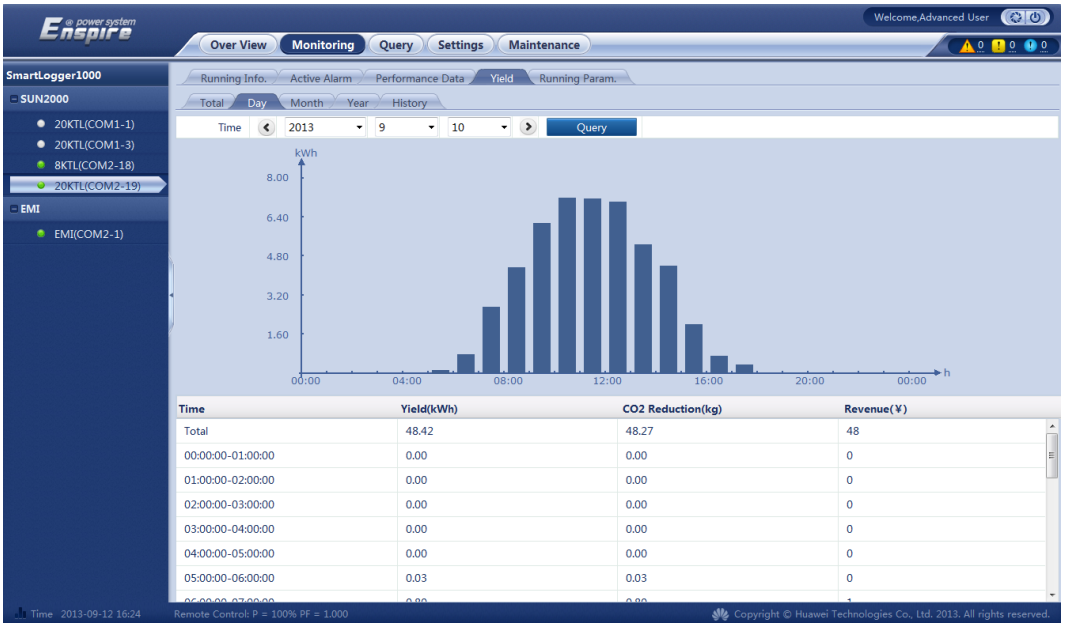
Figure 7-36 Daily energy yield



The displayed information includes the energy yield histogram, hourly energy yield, CO_2 emission reduction, revenue corresponding to the emission reduction, and total energy yield, emission reduction, and revenue.

NOTE

- The number of days on which the energy yield can be queried is relevant to the inverter quantity. For example, if 60 inverters are connected to the SmartLogger, daily energy yield data of at most 45 days can be stored.
- In the daily energy yield histogram, the horizontal coordinate stands for time (each block stands for one hour). The vertical coordinate stands for the energy yield (each block stands for the total energy yield during the last hour).

Monthly Energy Yield of Inverters

On the **Month** tab page, you can select a month and click **Query** to query the total and daily energy yield of that month, as shown in Figure 7-37.

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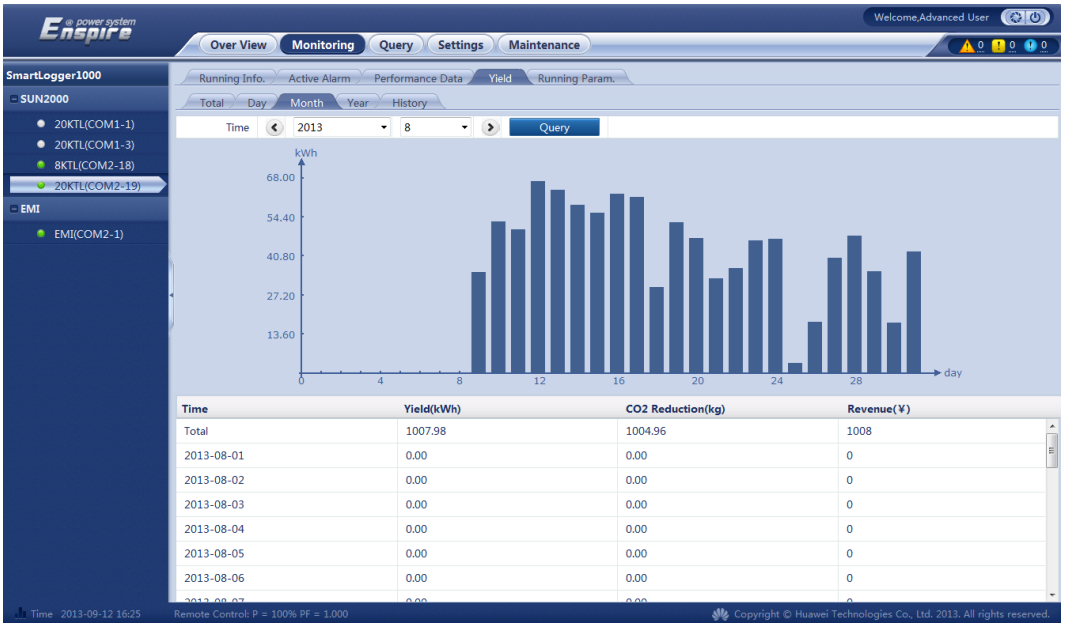
Figure 7-37



The displayed information includes the energy yield histogram, daily energy yield, CO_2 emission reduction, revenue corresponding to the emission reduction, and total energy yield, emission reduction, and revenue.

NOTE

- The number of months in which the energy yield can be queried is relevant to the inverter quantity. For example, if 60 inverters are connected to the SmartLogger, monthly energy yield data of at most 36 months can be stored.
- In the monthly energy yield histogram, the horizontal coordinate stands for day (each block stands for one day). The vertical coordinate stands for the energy yield (each block stands for the total energy yield on that day).

Annual Energy Yield of Inverters

On the **Year** tab page, you can select a year and click **Query** to query the total and monthly energy yield of that year, as shown in Figure 7-38.

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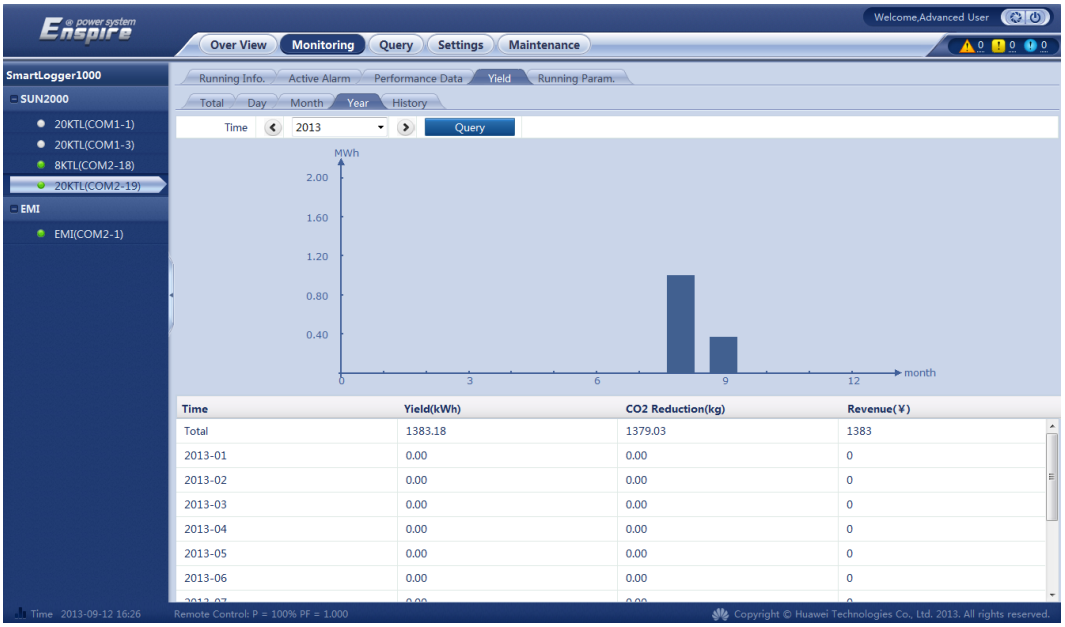
Figure 7-38 Annual energy yield



The displayed information includes the energy yield histogram, monthly energy yield, CO_2 emission reduction, revenue corresponding to the emission reduction, and total energy yield, emission reduction, and revenue.

NOTE

- The number of years in which the energy yield can be queried is relevant to the inverter quantity. For example, if 60 inverters are connected to the SmartLogger, annual energy yield data of at most 25 years can be stored.
- In the annual energy yield histogram, the horizontal coordinate stands for month (each block stands for one month). The vertical coordinate stands for the energy yield (each block stands for the total energy yield in that month).

Historical Energy Yield of Inverters

On the **History** tab page, you can query the total and annual energy yield of the past 25 years, as shown in Figure 7-39.

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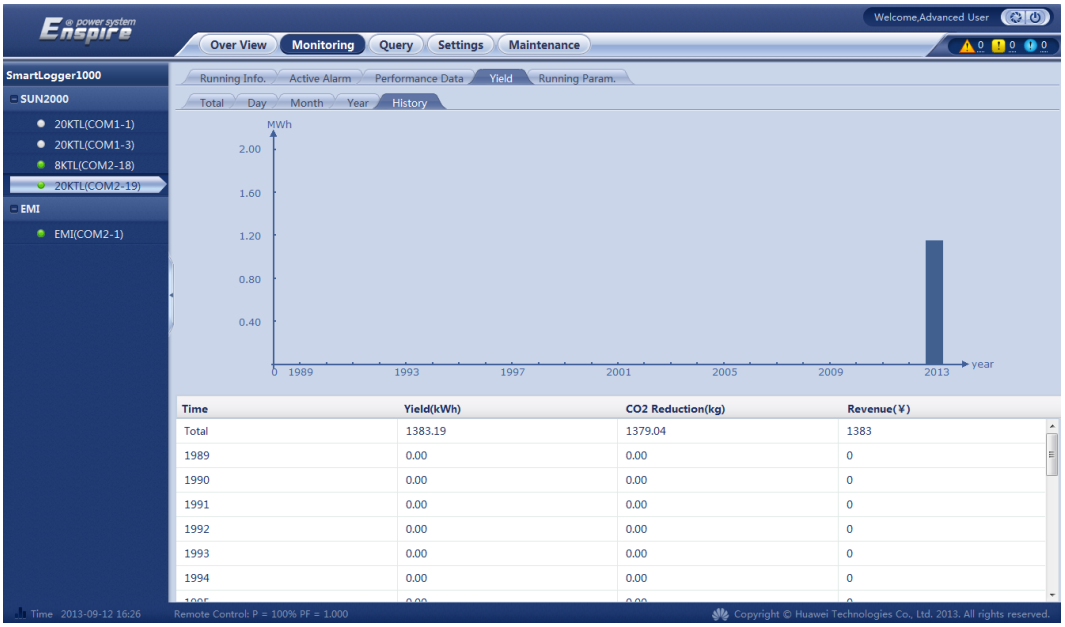
Figure 7-39 Historical energy yield



The displayed information includes the energy yield histogram, annual energy yield, CO_2 emission reduction, revenue corresponding to the emission reduction, and total energy yield, emission reduction, and revenue.

NOTE

- The historical energy yield data of the past 25 years can be queried.
- In the historical energy yield histogram, the horizontal coordinate stands for year (each block stands for one year). The vertical coordinate stands for the energy yield (each block stands for the total energy yield in that year).

7.12 Setting the Running Parameters of an Inverter

This topic describes how to set the running parameters of an inverter over the WebUI. Due to permission limits, the parameters that can be set by advanced users and special users are different.

On the **Monitoring** tab page, choose the inverter to be set and click **Running Parameter** to access the running parameter setting page.

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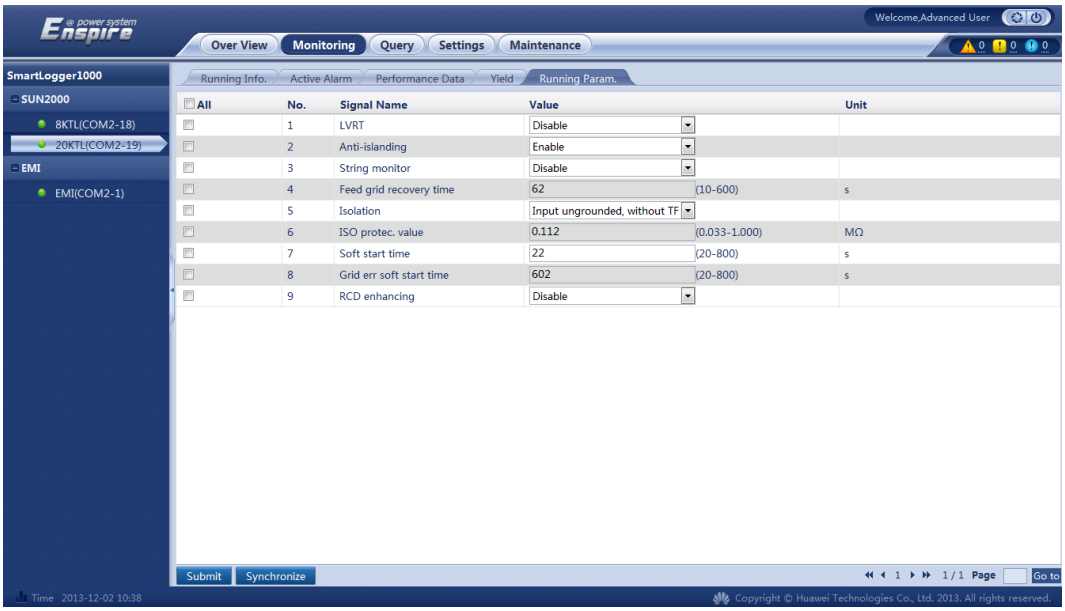
NOTICE

- When the SUN8000 status is **Disconnection**, you cannot set or synchronize parameters.
- You can set or synchronize parameters only when the SUN2000 status is **On-grid** or **Shutdown**.

Running Parameter (1)

When you log in as an **Advanced User**, you can set various parameters, such as **LVRT**, **Anti-Islanding**, **String Monitor**, and **Feed Grid Recovery Time**, as shown in Figure 7-40.

Figure 7-40 Inverter running parameter (1)



Running Parameter (2)

When you log in as a **Special User**, you can set various parameters, such as the protection point and protection time, as shown in Figure 7-41.

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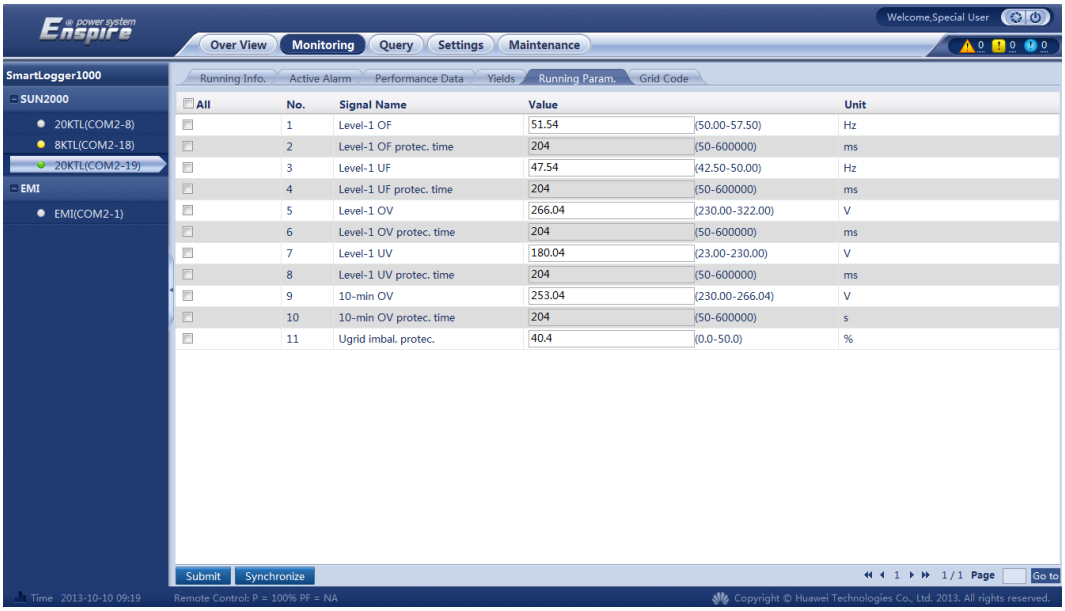
Figure 7-41 Inverter running parameter (2)



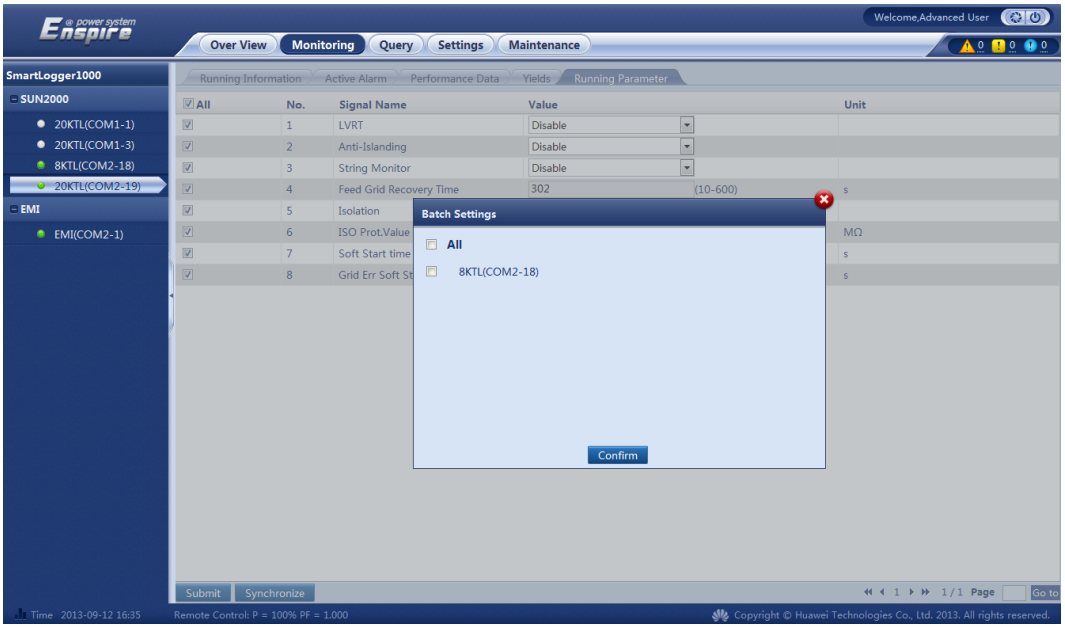
NOTE

Different parameter configurations on the **Grid Code** tab page correspond to different **Running Parameter** tab pages. Before setting parameters on the **Running Parameter** tab page, set the parameters on the **Grid Code** tab page.

Synchronizing Running Parameter

After setting the running parameters of an inverter, you can click **Synchronize** to synchronize the settings of required parameters to another inverter, as shown in Figure 7-42.

Figure 7-42 Synchronizing running parameter



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7.13 Setting the Power Grid Standard Code for an Inverter

This topic describes how to set the power grid standard code for an inverter over the WebUI.

Setting the Power Grid Standard Code

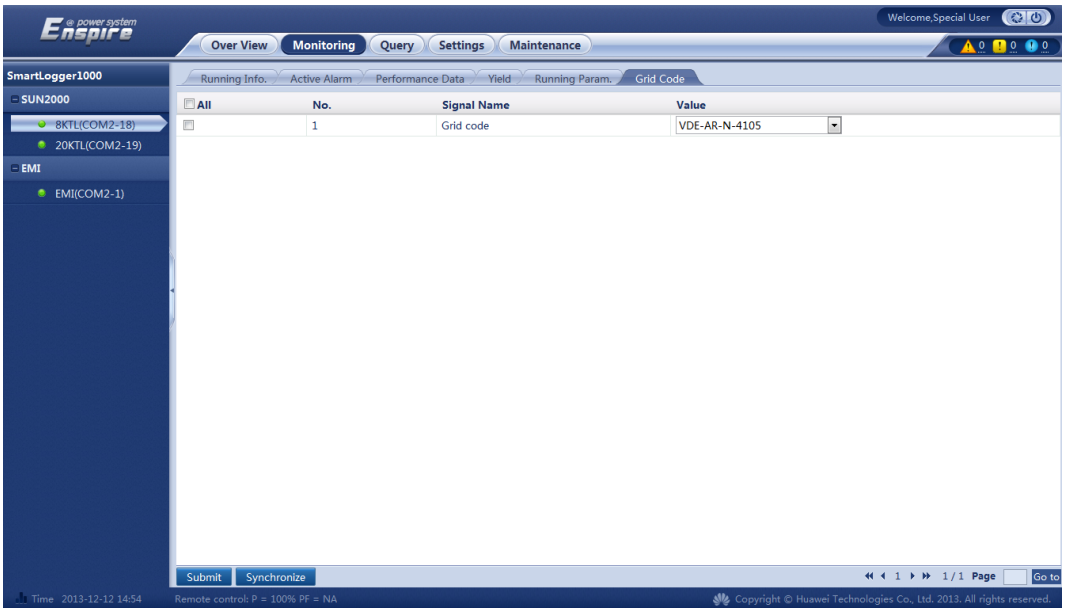
An inverter can normally generate electricity in grid-tied mode only if the power grid standard code is set properly for it.

NOTICE

This parameter must be set by professional personnel. Otherwise, the equipment may be damaged.

On the **Monitoring** tab page, choose the inverter for which the power grid standard code will be set and click **Grid Code**, as shown in Figure 7-43. Because of the limited permission, select the User name as **Special User**.

Figure 7-43 Power Grid Standard Code



NOTICE

Properly set the power grid standard code based on the local standard.

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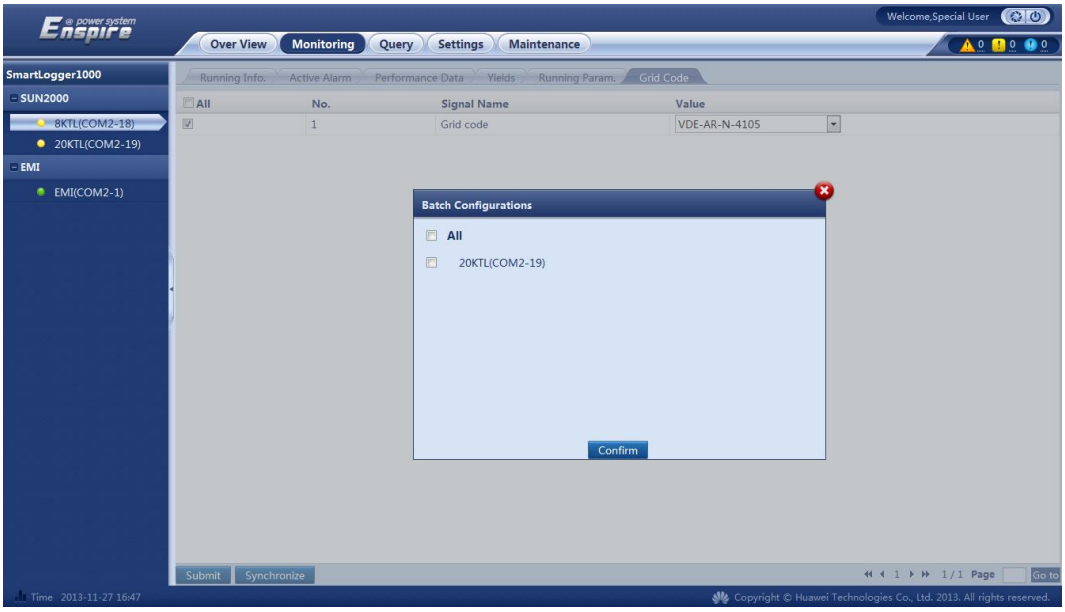
Synchronizing the Power Grid Standard Code

After you set the power grid standard code of one inverter, press **Synchronize** to synchronize the standard code on other inverters, as shown in Figure 7-44.

Figure 7-44 Synchronizing the power grid standard code



7.14 Querying the Running Information of an EMI

This topic describes how to query the running information of an environmental monitoring instrument over the WeBUI.

On the **Monitoring** tab page, you can choose the EMI to be queried and click **Running Information** to query the values of various parameters related to the running of the EMI, such as **Total Radiation**, **PV Module Temperature**, **Ambient temperature**, **Wind Speed**, and **Wind Direction**, as shown in Figure 7-45.

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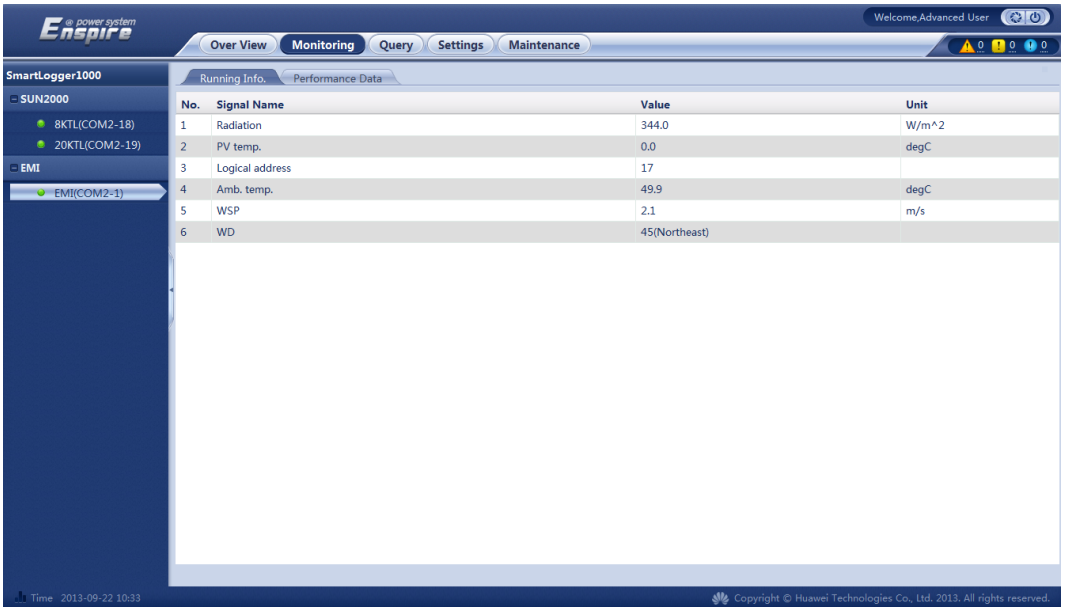
Figure 7-45 Running information of the EMI



7.15 Querying the Performance Data of an EMI

This topic describes how to query the performance data of an environmental monitoring instrument over the WEBUI. You can choose to display the performance data in a table or curve or export it.

On the **Monitoring** tab page, choose the EMI to be queried and click **Performance Data** to access the performance data query page.

NOTE

When querying the performance data of an EMI, you can select a period in which the performance data you want to query directly from the **Time** drop-down list or by clicking the time adjustment buttons on both sides of the drop-down list box.

Select **Table** as the display mode, select a period in which the performance data you want to query, and click **Query**. You can query the values of various performance parameters, such as **Generation Time**, **Radiation**, **PV temperature**, and **Ambient temperature**, as shown in Figure 7-47.

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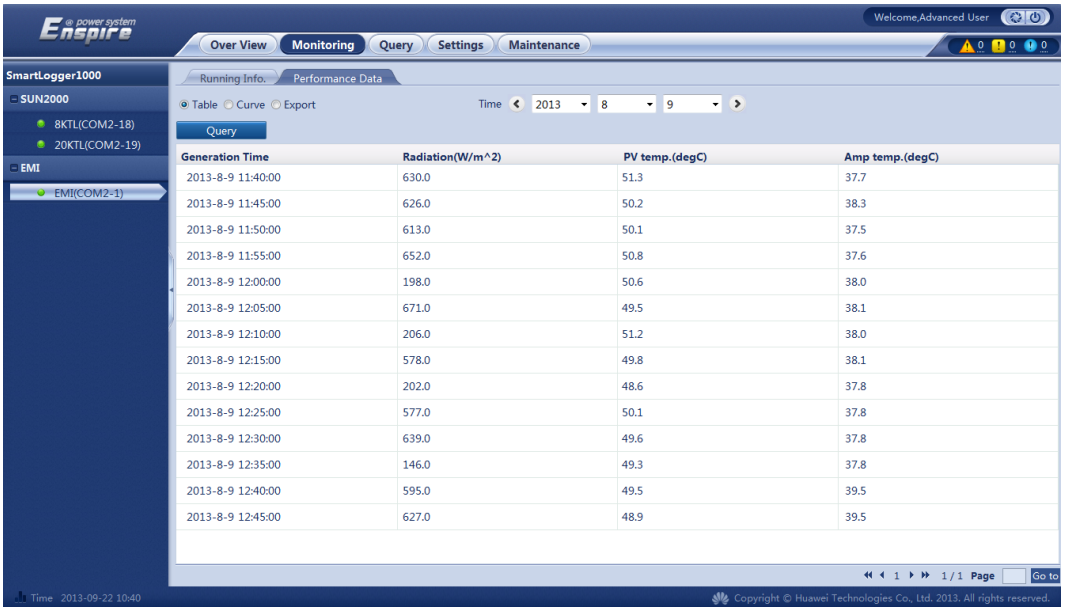
Figure 7-46 Performance data displayed in a table



Select **Curve** as the display mode, select a period in which the performance data you want to query, specify the parameters indicated by Y1 and Y2, and click **Query**, as shown in Figure 7-47.

NOTICE

You can specify two parameters respectively indicated by Y1 and Y2 simultaneously to compare the value curves of the two parameters. However, the two parameters must be different.

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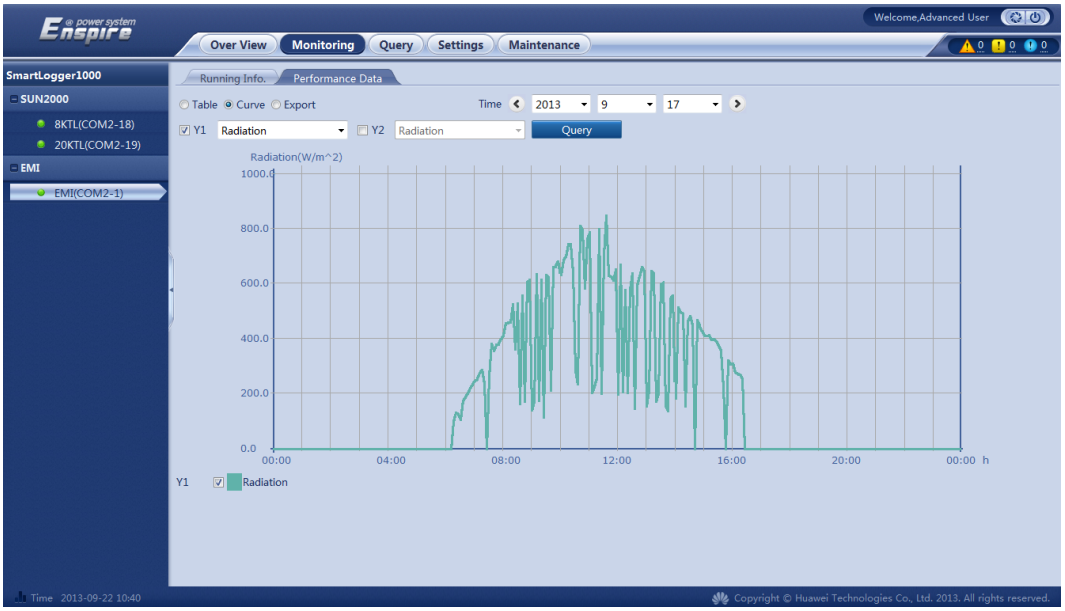
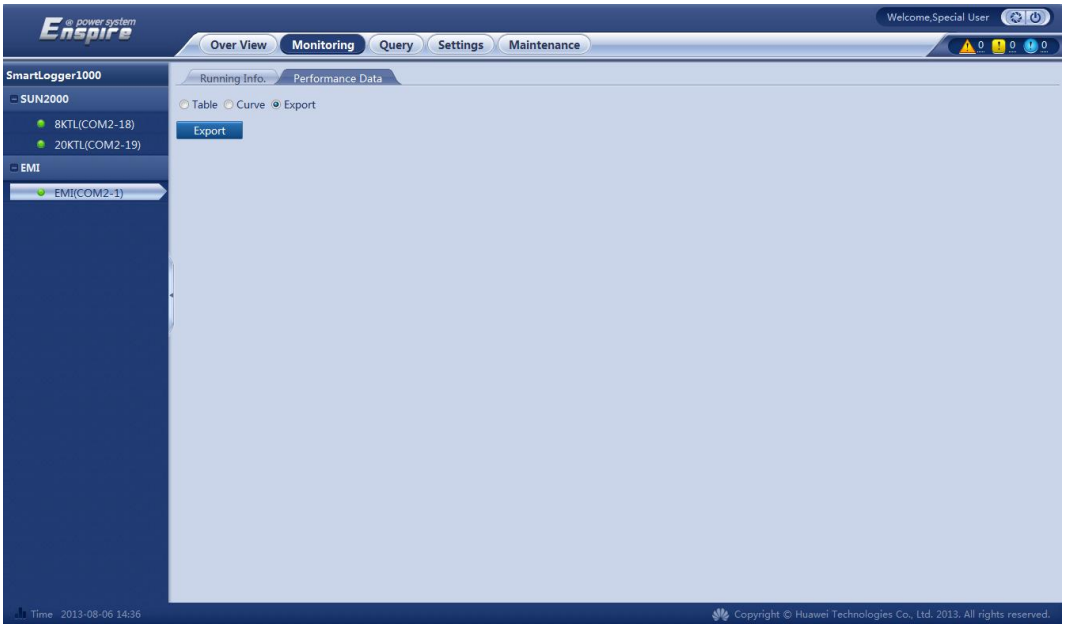
Figure 7-47 Performance data displayed in a curve



You can select **Export** as the display mode and click **Export** to export the performance data, as shown in Figure 7-48.

Figure 7-48 Exporting performance data



7.16 Querying Historical Alarms

This topic describes how to query historical alarms of the equipment over the WebUI.

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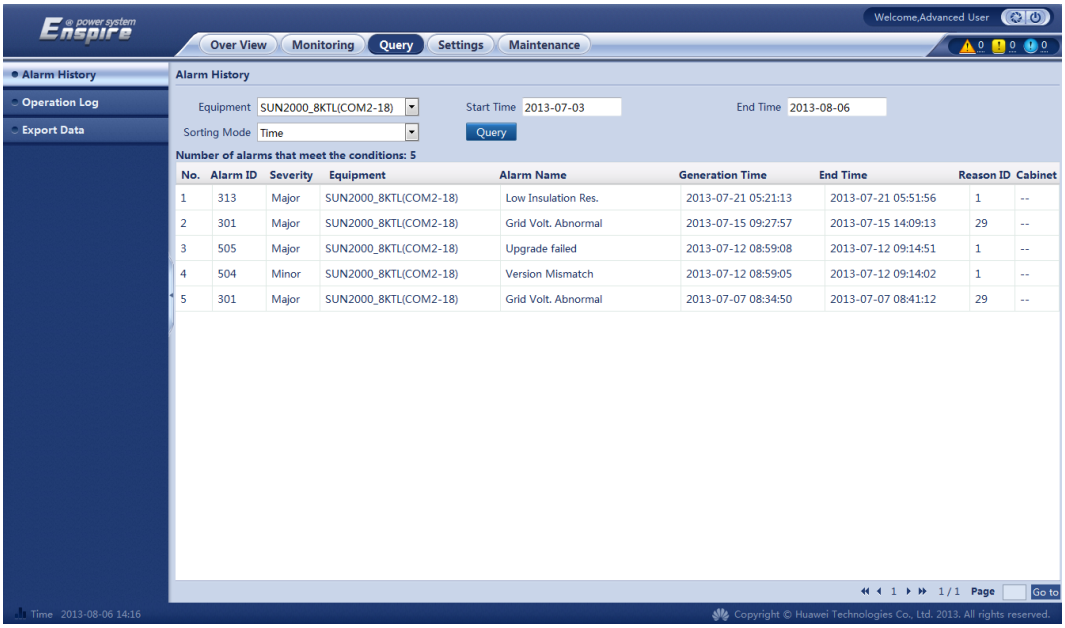
On the **Query** tab page, you can select **Alarm History** to query the alarm information of the equipment.

On the **Alarm History** page, choose the equipment to be queried and the start time, end time, and sorting mode of alarms. After that, click **Query**, as shown in Figure 7-49.

Figure 7-49 Historical alarms


Welcome,Advanced User
Over View
Monitoring
Query
Settings
Maintenance
Alarm History
Operation Log
Export Data
Alarm History
Equipment SUN2000_8KTL(COM2-18)
Start Time 2013-07-03
End Time 2013-08-06
Sorting Mode Time
Query
Number of alarms that meet the conditions: 5
No. Alarm ID Severity Equipment Alarm Name Generation Time End Time Reason ID Cabinet
1 313 Major SUN2000_8KTL(COM2-18) Low Insulation Res. 2013-07-21 05:21:13 2013-07-21 05:51:56 1 --
2 301 Major SUN2000_8KTL(COM2-18) Grid Volt. Abnormal 2013-07-15 09:27:57 2013-07-15 14:09:13 29 --
3 505 Major SUN2000_8KTL(COM2-18) Upgrade failed 2013-07-12 08:59:08 2013-07-12 09:14:51 1 --
4 504 Minor SUN2000_8KTL(COM2-18) Version Mismatch 2013-07-12 08:59:05 2013-07-12 09:14:02 1 --
5 301 Major SUN2000_8KTL(COM2-18) Grid Volt. Abnormal 2013-07-07 08:34:50 2013-07-07 08:41:12 29 --
1 / 1 Page Go to
Time 2013-08-06 14:16
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7.17 Querying Operation Logs

This topic describes how to query operation logs over the WebUI.

On the **Query** tab page, click **Operation Log**. Operation logs (such as login, parameter setting, data export, firmware upgrade, and password change) of users are displayed, as shown in Figure 7-50. Because of the limited permission, select the User name as **Advanced User** or **Special User**.

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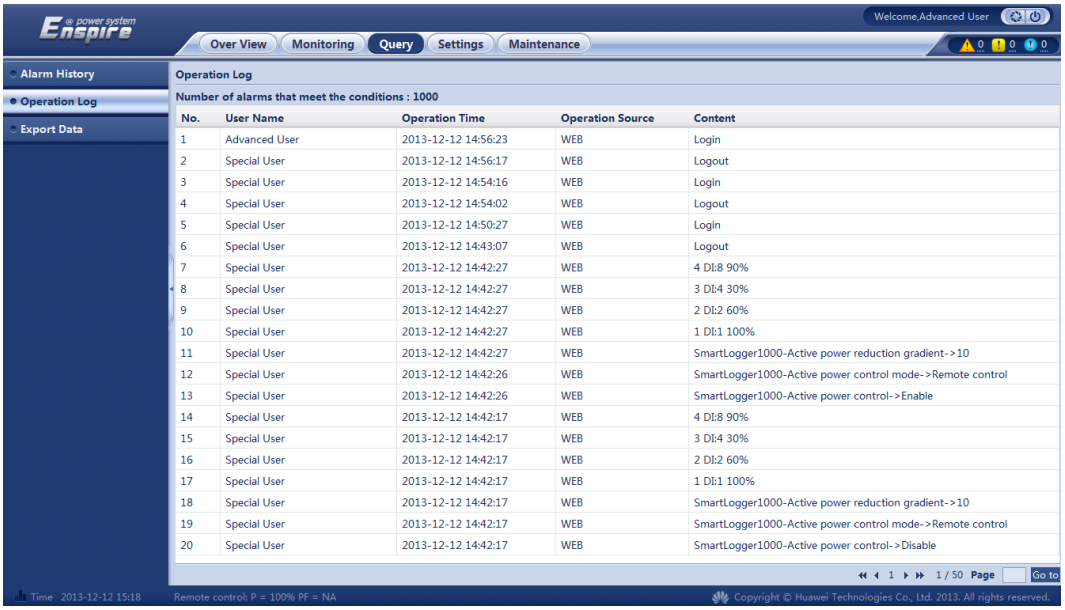
Figure 7-50 Operation logs


Welcome,Advanced User
Over View
Monitoring
Query
Settings
Maintenance
Alarm History
Operation Log
Export Data
Operation Log
Number of alarms that meet the conditions : 1000
No. User Name Operation Time Operation Source Content
1 Advanced User 2013-12-12 14:56:23 WEB Login
2 Special User 2013-12-12 14:56:17 WEB Logout
3 Special User 2013-12-12 14:54:16 WEB Login
4 Special User 2013-12-12 14:54:02 WEB Logout
5 Special User 2013-12-12 14:50:27 WEB Login
6 Special User 2013-12-12 14:43:07 WEB Logout
7 Special User 2013-12-12 14:42:27 WEB 4 DI:8 90%
8 Special User 2013-12-12 14:42:27 WEB 3 DI:4 30%
9 Special User 2013-12-12 14:42:27 WEB 2 DI:2 60%
10 Special User 2013-12-12 14:42:27 WEB 1 DI:1 100%
11 Special User 2013-12-12 14:42:27 WEB SmartLogger1000-Active power reduction gradient->10
12 Special User 2013-12-12 14:42:26 WEB SmartLogger1000-Active power control mode->Remote control
13 Special User 2013-12-12 14:42:26 WEB SmartLogger1000-Active power control->Enable
14 Special User 2013-12-12 14:42:17 WEB 4 DI:8 90%
15 Special User 2013-12-12 14:42:17 WEB 3 DI:4 30%
16 Special User 2013-12-12 14:42:17 WEB 2 DI:2 60%
17 Special User 2013-12-12 14:42:17 WEB 1 DI:1 100%
18 Special User 2013-12-12 14:42:17 WEB SmartLogger1000-Active power reduction gradient->10
19 Special User 2013-12-12 14:42:17 WEB SmartLogger1000-Active power control mode->Remote control
20 Special User 2013-12-12 14:42:17 WEB SmartLogger1000-Active power control->Disable
1 / 50 Page Go to
Time 2013-12-12 15:18
Remote control: P = 100% PF = NA
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7.18 Exporting Data

This topic describes how to export historical alarms, energy yield, and operation logs over the WebUI.

Exporting Data

In the **Exporting Data** window, you can export **Alarm History**, **Yield**, **Operation Log**, or **All** in CSV format, as shown in Figure 7-51. Because of the limited permission, select the User name as **Advanced User**.

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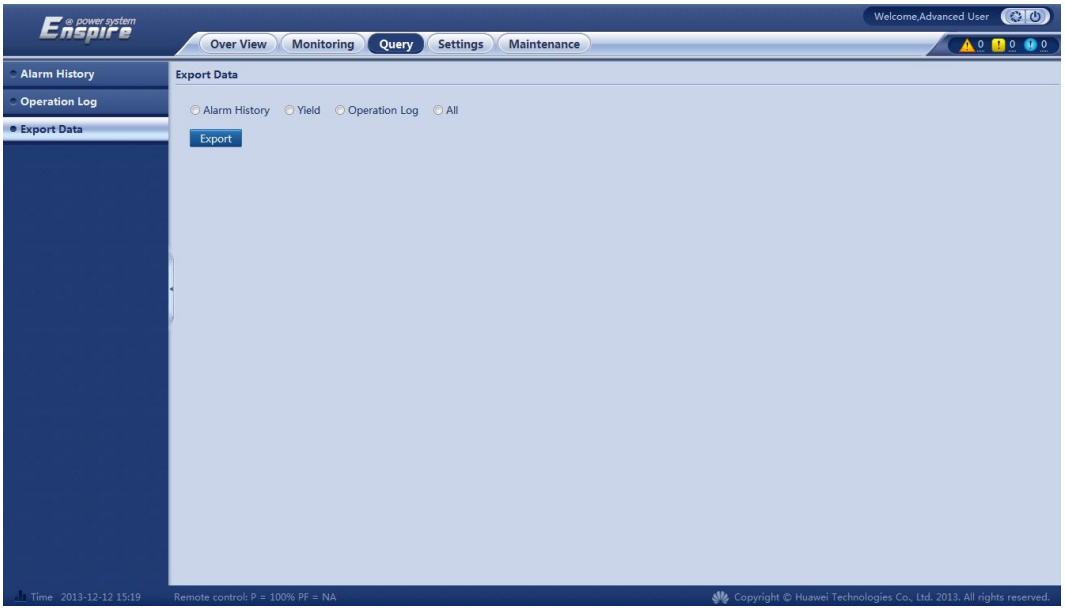
Figure 7-51 Exporting Data



Opening the Exported File

The exported files are in CSV format and can be opened in Microsoft Office Excel. If the table is in disorder after file is opened, check that **List separator** is **,**. If **List separator** is not **,**, change it to **,**.

To view and change List separator, perform the following steps:

1. Open **Control Panel** and choose **Region and Language**.
2. Under **Formats**, click **Additional settings**, as shown in Figure 7-52.

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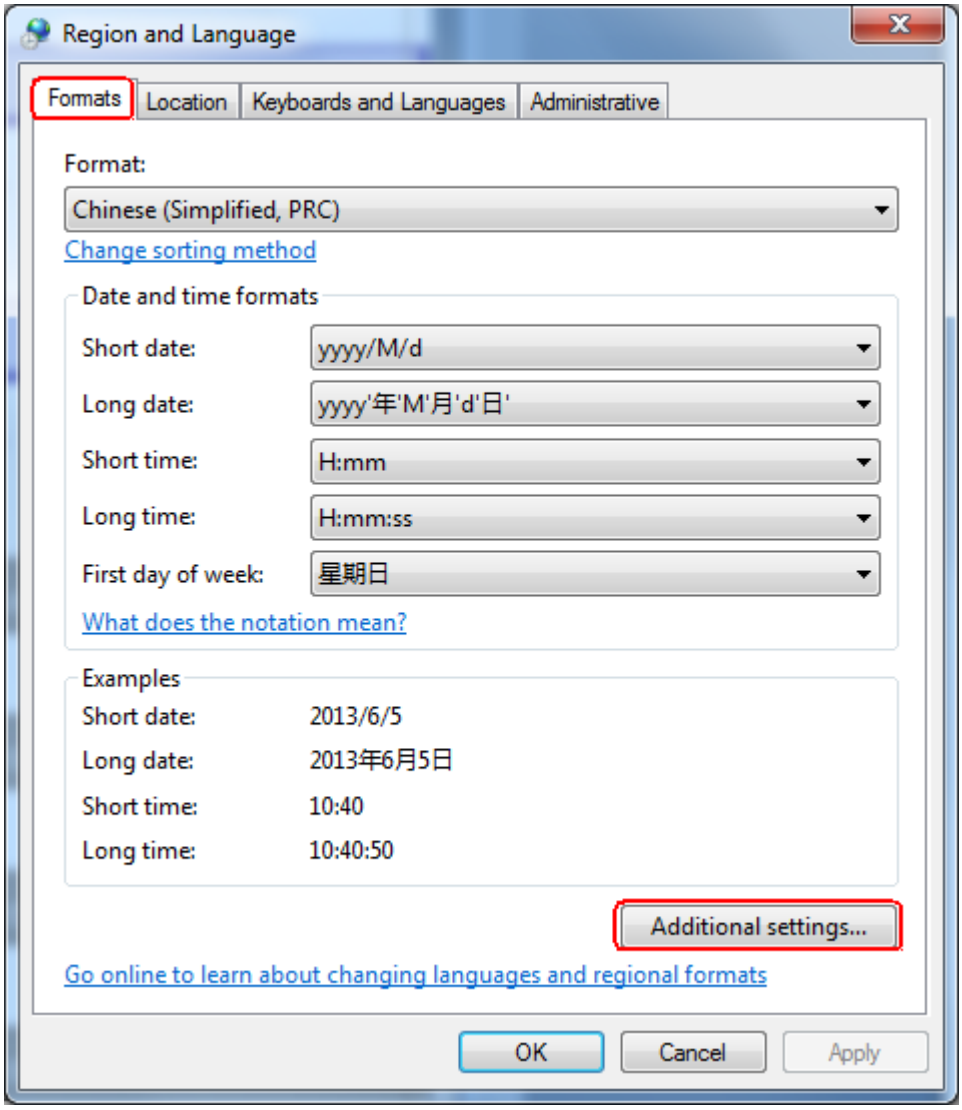
Figure 7-52 Viewing and changing List separator (1)



3. View and change List separator, as shown in Figure 7-53.
   - If **List separator** is **,**, click **OK**.
   - If **List separator** is not **,**, change it to **,** and click **OK**.

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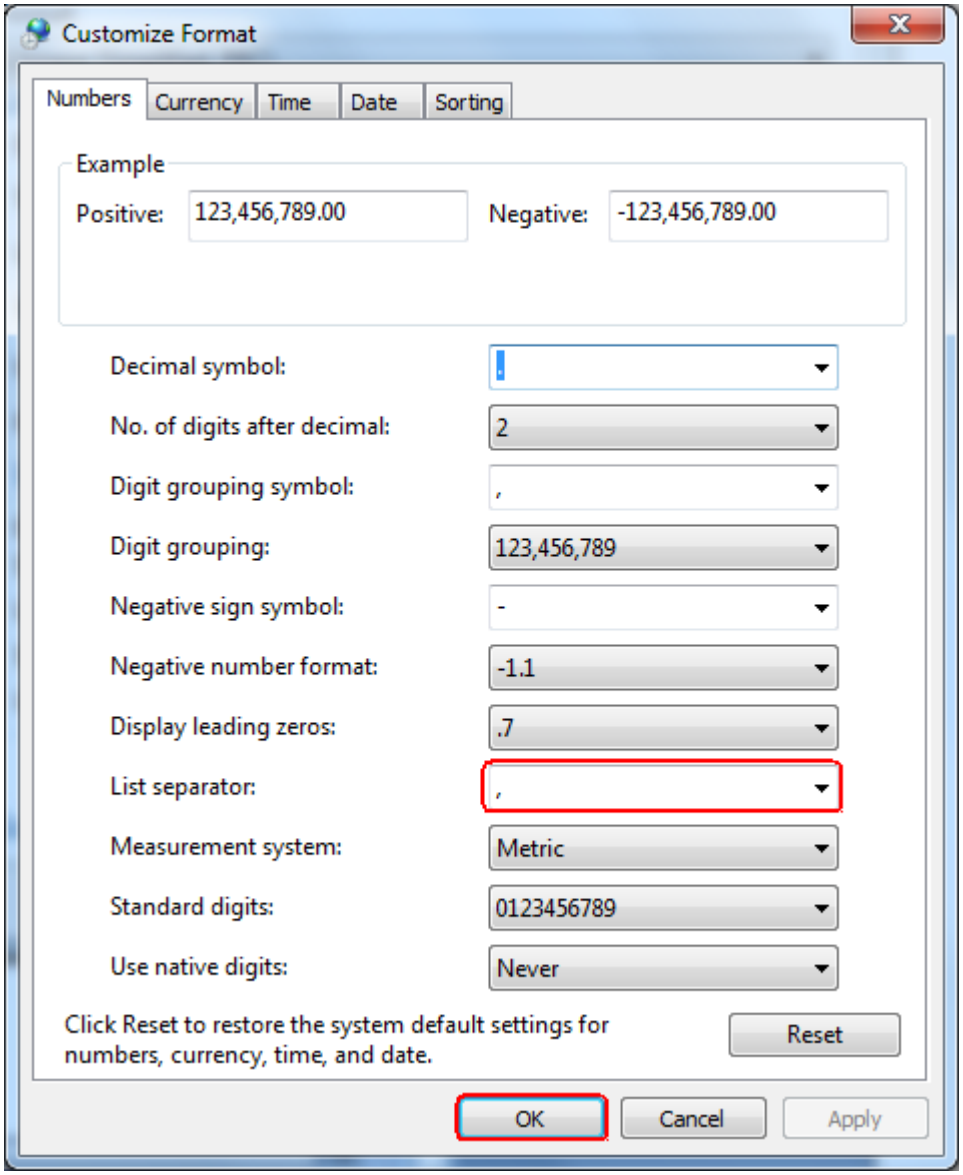
Figure 7-53 Viewing and changing List separator (2)



7.19 Setting Date&Time

This topic describes how to set Time Zone and Date&Time over the WebUI.

On the **Settings** tab page, choose **User Parameters** > **Date&Time** and set **Local time zone**, **Date**, and **Time**, as shown in Figure 7-54. Because of the limited permission, select the User name as **Common User** or **Advanced User**.

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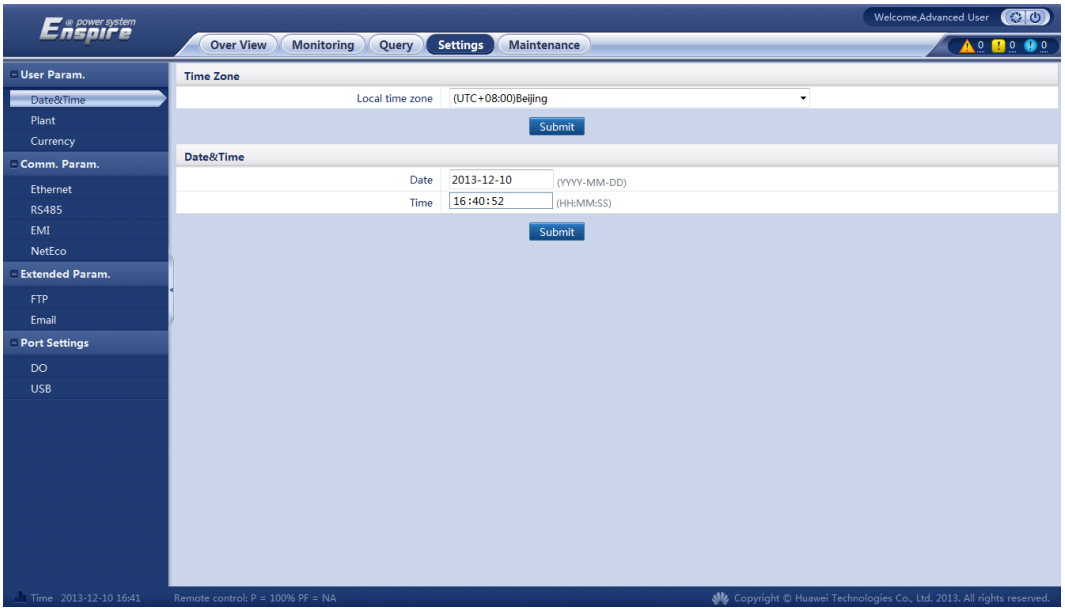
Figure 7-54 Date&Time



NOTICE

- Set **Local time zone** based on the location of the inverters and enable or disable **DST** as required.
- After **Date&Time** is successfully set, this time can be synchronized in all the inverters connected to the SmartLogger.
- Modification of **Date&Time** may affect the energy yield and performance data. Therefore, change the time zone or system time with caution.

7.20 Setting Plant Information

This topic describes how to set plant information over the WebUI, including the plant name and owner and address and nationality of the plant owner.

After you set the plant information, a plant configuration file can be generated. You can upload this file to a third-party hosting website to implement remote monitoring.

On the **Settings** tab page, choose **User Parameters** > **Plant** and set **Plant Name**, **Plant Owner**, **Plant Owner Address**, and **Country**, as shown in Figure 7-55. Because of the limited permission, select the User name as **Common User** or **Advanced User**.

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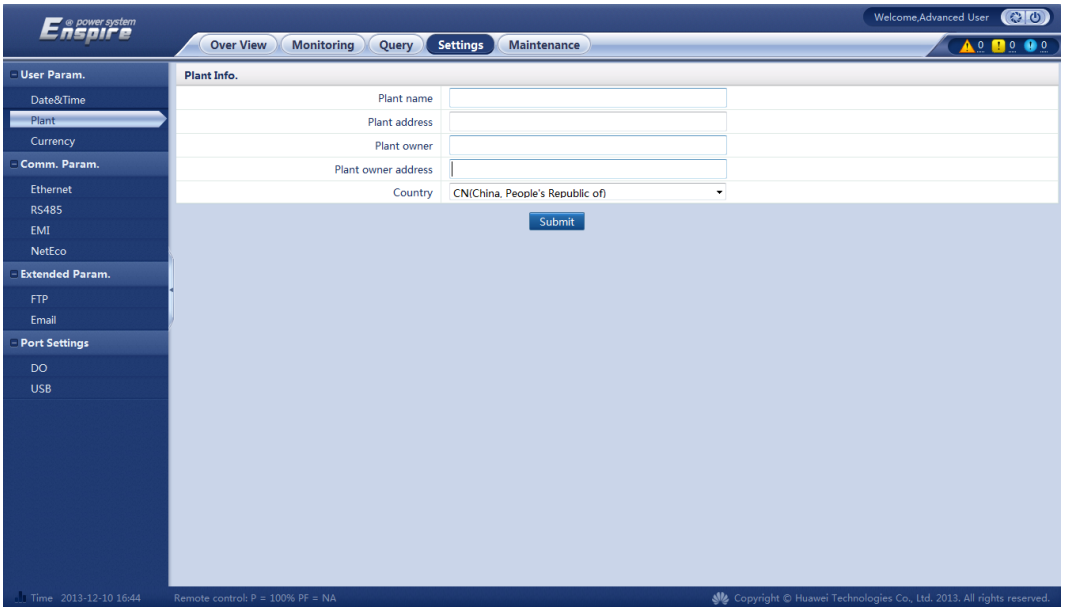
Figure 7-55 Plant information



7.21 Setting Currency Parameters

This topic describes how to set currency parameters, such as Currency and Currency Factor, over the WebUI.

On the **Settings** tab page, choose **User Parameters** > **Currency** and set **Currency** and **Currency Factor**, as shown in Figure 7-56. Because of the limited permission, select the User name as **Common User** or **Advanced User**.

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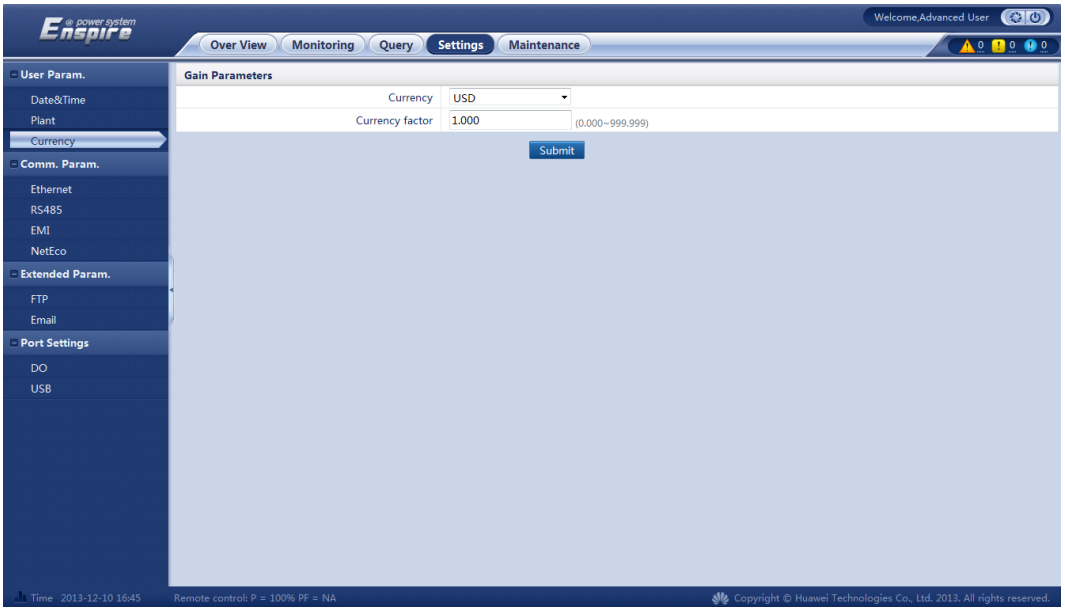
Figure 7-56 Currency parameters



NOTE

- Four values are available for **Currency**, that is, **EUR**, **CNY**, **GBP**, and **USD**.
- The currency factor is the electricity price per kWh, which is used to calculate the energy yield revenue.

7.22 Setting Ethernet Parameters

This topic describes how to set Ethernet parameters, including IP Address and DNS server address over the WebUI.

Correctly set parameters for the Ethernet to ensure the normal communications between the SmartLogger and the monitoring terminal.

On the **Settings** tab page, choose **Comm. Parameters** > **Ethernet** and set **IP Address**, **Subnet Mask**, **Default Gateway**, and **DNS server address**, as shown in Figure 7-57. Because of the limited permission, select the User name as **Advanced User**.

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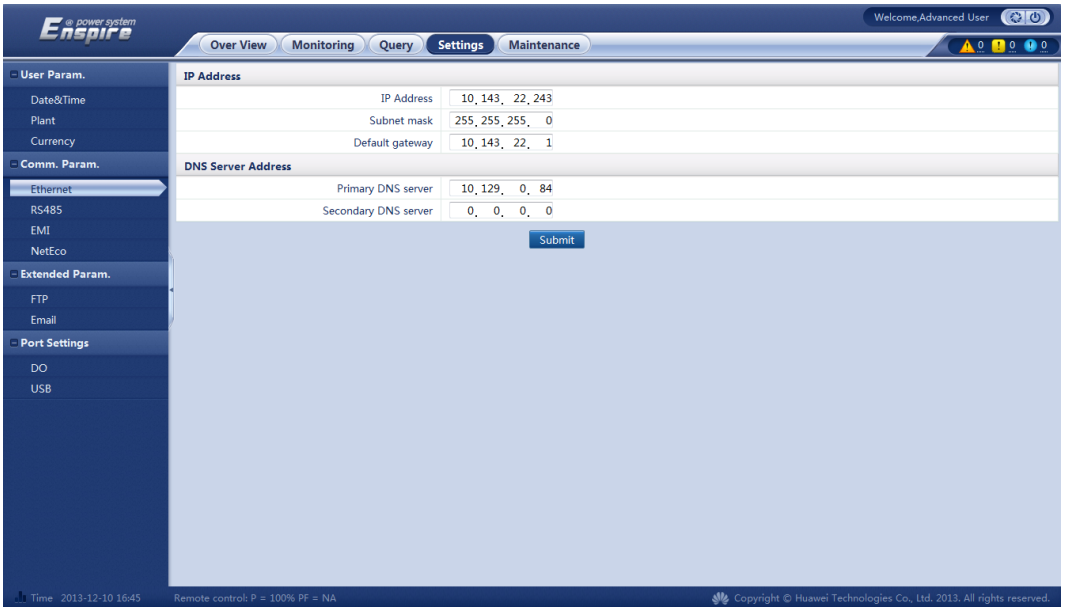
Figure 7-57 Ethernet



NOTICE

Take the following precautions for setting Ethernet parameters when the SmartLogger connects to the Internet through a router:

- Set the gateway address to the IP address of the router.
- Ensure that the IP address of the SmartLogger is in the same network segment as the gateway address.
- Set the DNS address to the IP address of the router or obtain the DNS address from the network provider.

When you change an IP address, a dialog box is displayed asking for your confirmation. After the IP address is changed, you need to use the new IP address to log in to the system.

7.23 Setting RS485 Parameters

This topic describes how to set RS485 parameters, including Baud Rate, Start Address, and End Address, over the WebUI.

Correctly set the parameters for the RS485 to ensure the normal communications between the SmartLogger and the inverters and between the SmartLogger and the environmental monitoring instrument.

On the **Settings** tab page, choose **Comm. Parameters** > **RS485** and set **Baud Rate**, **Start Address**, and **End Address**, as shown in Figure 7-58. Because of the limited permission, select the User name as **Advanced User**.

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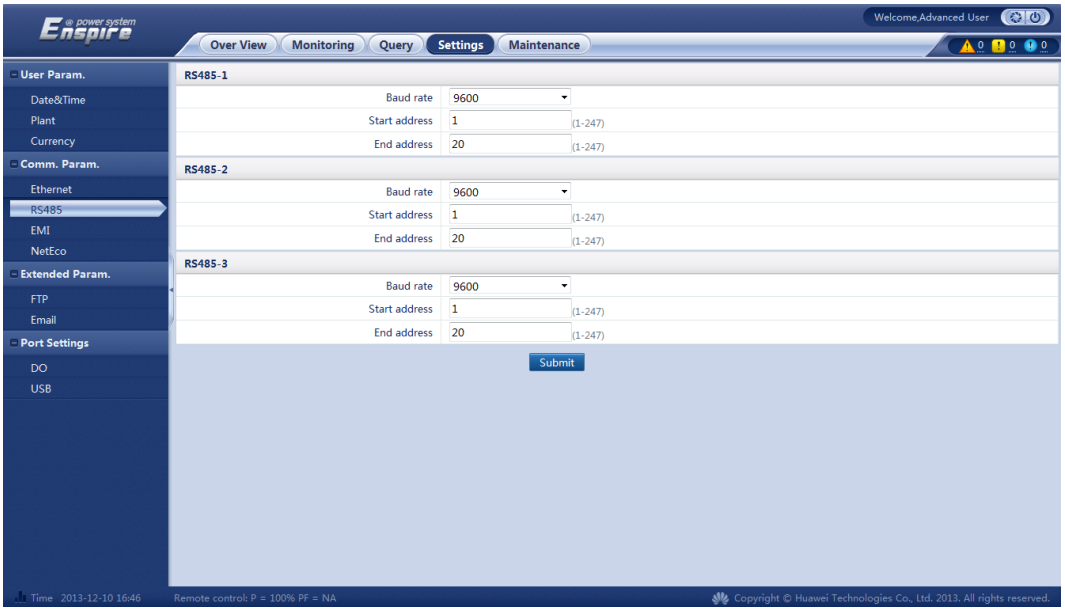
Figure 7-58 RS485



NOTE

- **RS485-1** indicates communications port **COM1**, **RS485-2** indicates communications port **COM2**, and **RS485-3** indicates communications port **COM3**.
- The following baud rates are supported: **4800bps**, **9600bps** and **19200bps**. 9600bps is recommended.
- 1 ≤ **Start Address** ≤ **End Address** ≤ 247. The address segments for these three ports can overlap.

  Set the address scope properly. The broader the scope is, the longer the time is for searching the devices.

7.24 Setting EMI Parameters

This topic describes how to set parameters, including Read Function Code, Read Mode, Start Address, and End Address, for the environmental monitoring instrument over the WebUI.

Connect the SmartLogger to an EMI that complies with the standard MODBUS/485 protocol. The SmartLogger can connect to and manage only one EMI at a time.

The protocol points for EMIs provided by different vendors are varied. Therefore, to obtain information from an EMI, configure the protocol point on the WebUI of the SmartLogger properly based on the document delivered by the vendor.

On the **Settings** tab page, choose **Comm. Parameters** > **EMI** and set EMI parameters. Because of the limited permission, select the user name as **Advanced User**.

- If the EMI model is Handan or Jinzhou Yangguang, select **Handan (RYQ-3)** or **Jinzhou Yangguang (PC-4)** from the drop-down list, as shown in Figure 7-59.

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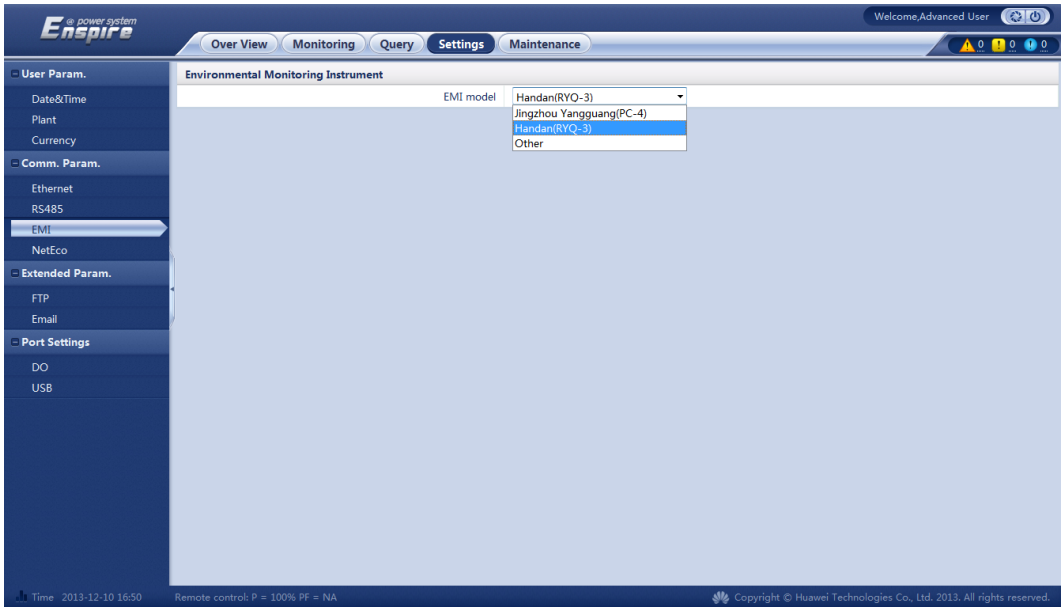
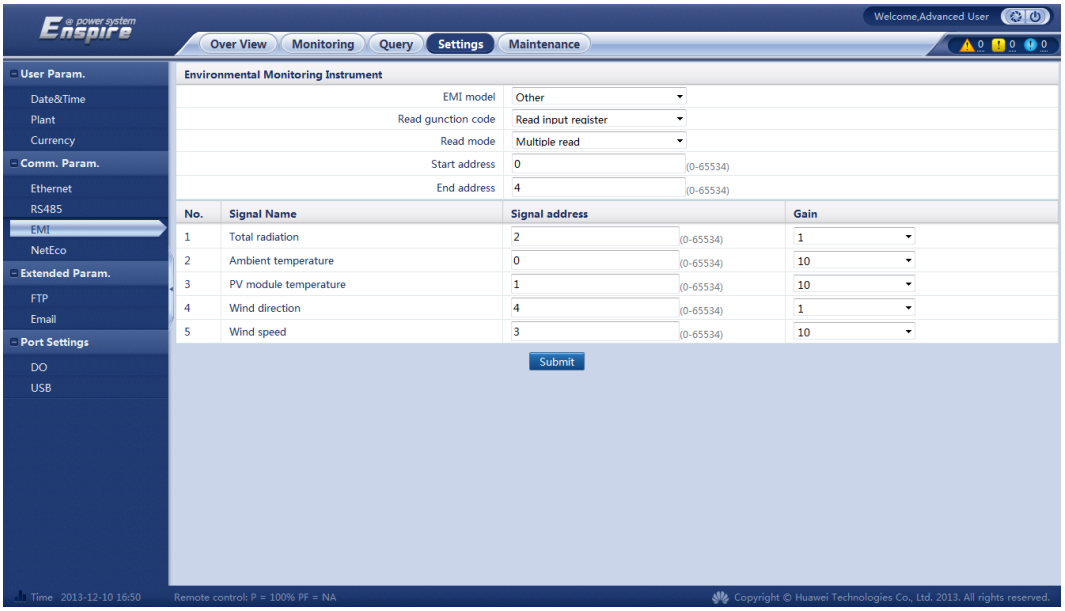
Figure 7-59 EMI (1)



- If an EMI of other model is used, select **Other** from the drop-down list and then set EMI parameters, as shown in Figure 7-60.

Figure 7-60 EMI (2)



NOTE

Correctly set the address parameters, as shown in Figure 7-60. Otherwise, the EMI cannot work normally.

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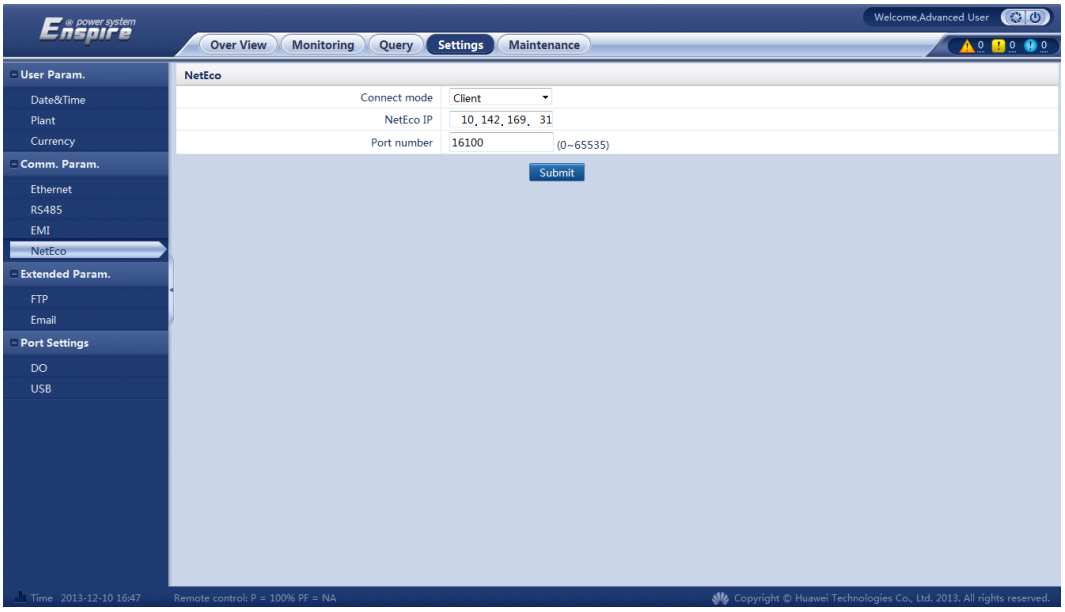
7.25 Setting NetEco Parameters

This topic describes how to set NetEco parameters, including Connect Mode, NetEco IP, and Port, over the WebUI.

Set NetEco parameters to ensure normal communication between the SmartLogger and the NetEco.

On the **Settings** tab page, choose **Comm. Parameters** > **NetEco** and set **Connect Mode**, **NetEco IP**, and **Port number**, as shown in Figure 7-61. Because of the limited permission, select the User name as **Advanced User**.

Figure 7-61 NetEco



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NOTICE

- When **Connect Mode** is set to **Server**, the NetEco connects to the SmartLogger as a client. Generally, this mode applies to the scenario where the SmartLogger and NetEco are in the same LAN.
- When **Connect Mode** is set to **Client**, set an IP address and a port ID (16100 by default) for the NetEco on the SmartLogger. This mode applies to remote access scenarios, for example, when the SmartLogger and NetEco are not in the same LAN.
- When **Connect Mode** is set to **Server+Client**, the SmartLogger connects to the NetEco as a client or connects to a third-party EMS as a server. The SmartLogger can connect to a third-party EMS and Huawei NetEco by Modbus and TCP. In this way, customers can perform centralized monitoring by using a third-party EMS while using Huawei NetEco to perform remote upgrade, log uploading, batch parameter setting, historical performance data analysis, and historical alarm analysis.

7.26 Setting FTP Parameters

This topic describes how to set basic parameters of the FTP server and view the latest report status over the WebUI.

The FTP function is used to access a third-party element management system (EMS). The SmartLogger can report the configuration information and running data of the managed plant system through the FTP. The third-party EMS can access Huawei devices with proper configurations.

On the **Settings** tab page, choose **Extended Parameters** > **FTP**. On the displayed page, you can set parameters in the **Basic Parameters** and **Report Settings** areas and view the information in the **Latest Report Status** area, as shown in Figure 7-62. Because of the limited permission, select the User name as **Advanced User**.

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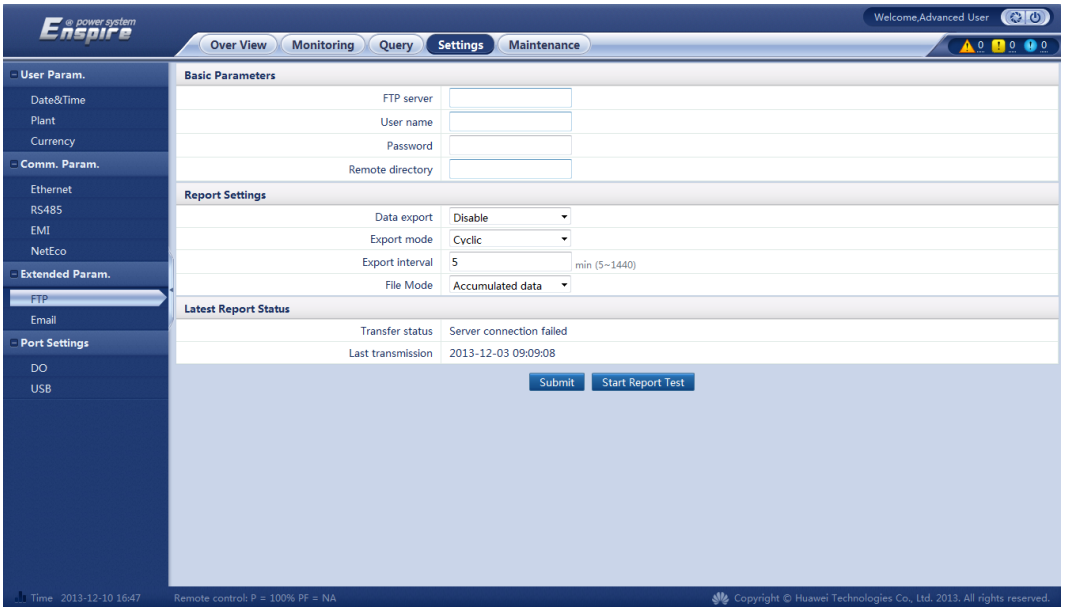
Figure 7-62 FTP



NOTE

- **FTP Server** can be set to the domain name or IP address of the FTP server.

  If this parameter is set to the domain name of the FTP server, ensure that the address of the DNS server is set properly.
- **User Name** and **Password** indicate the user name and password that need to be entered when you log in to the FTP server.
- Under the default directory to which data is uploaded, you can set **Remote Directory** to create a subdirectory with a name the same as the value of this parameter.
- You can click **Start report test** to check whether the SmartLogger can successfully report data to the third-party EMS.
- You can enable or disable the data report function as required.
- If you enable the data report function, you can choose to report data at regular intervals or at fixed time.
- Data reported on schedule is accumulated data, whose file name remains the same for a whole day. You can choose **Accumulated data** or **Periodically added data** to be reported within a specified cycle.

7.27 Setting Email Parameters

This topic describes how to set basic parameters of email and view the latest report status over the WebUI.

The SmartLogger can send emails to inform users of the current energy yield information of the power station system, alarm information, and equipment status, helping users to know the running conditions of the power station system in time.

When using this function, ensure that the SmartLogger can be connected to the configured email server and set the Ethernet parameters and email parameters of the SmartLogger.

On the **Settings** tab page, choose **Extended Parameters** > **Email** and set parameters in the **Basic Parameters**, **Yield**, and **Alarm** areas and view the information in the **Latest Report**

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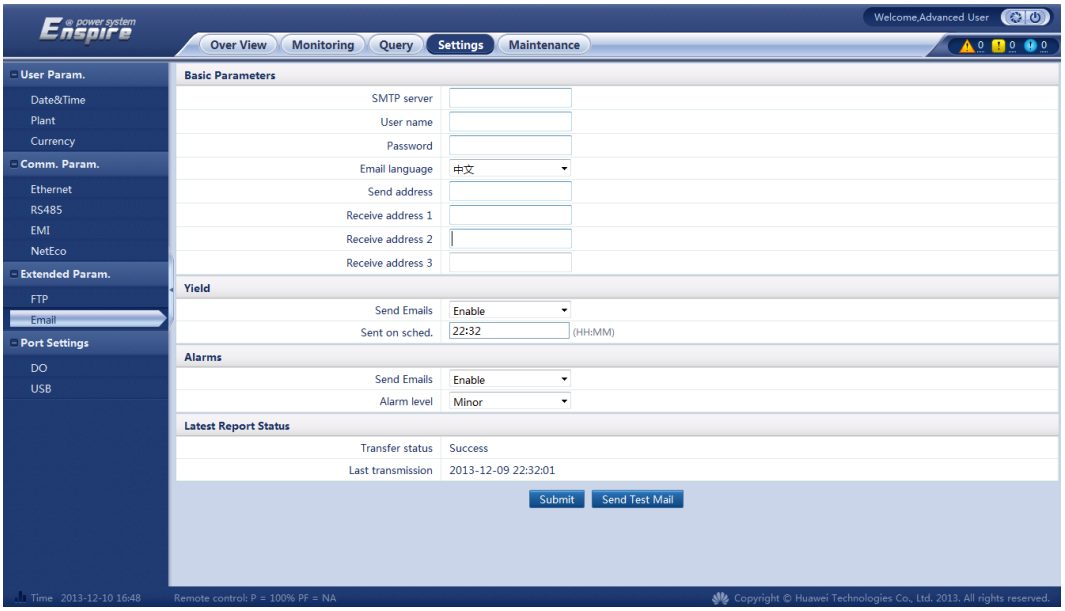
Status area, as shown in Figure 7-63. Because of the limited permission, select the User name as **Advanced User**.

Figure 7-63 Email



NOTE

- **SMTP Server** can be set to the domain name or IP address of the SMTP server.

  If this parameter is set to the domain name of the SMTP server, ensure that the address of the DNS server is set properly.
- **User Name** and **Password** indicate the user name and password that need to be entered when you log in to the SMTP server.
- You can click **Send Test Mail** to check whether the SmartLogger can successfully send emails to users.
- You can enable or disable the function of sending emails to inform you of the energy yield or alarm information as required.

Note the following when setting email parameters:

- Before setting email parameters, set the DNS server address. By default, you can set the DNS server address to the IP address of the 3G router or obtain an address from the network provider as the DNS server address. For detailed operations, see 7.22 Setting Ethernet Parameters.
- If you want to be informed of the energy yield information by emails at regular intervals, enable the relevant function and set the sending time.
- Alarm emails are sent in trigger mode. That is, with the relevant function enabled and alarm severity preset, a notification email is sent to you if an alarm of this severity or higher is generated.

7.28 Port Settings

This topic describes how to reset a 3G router by configuring a DO port or USB port.

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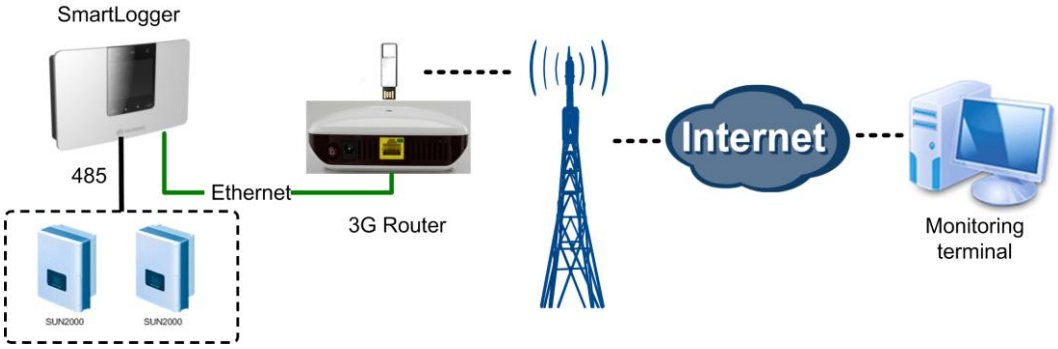
When the PV plant and the element management system (EMS) are not in the same area, the SmartLogger needs to be connected to the EMS to implement the function of monitoring a remote PV plant. After you connect the SmartLogger to a router and set the Ethernet parameters, the SmartLogger can be connected to the remote EMS, SMTP mail server, or FTP server through the router.

If it is inconvenient to connect the PV plant in wired mode, you can connect it to a wireless 3G router for accessing the Internet, as shown in .

Figure 7-64 3G router networking



A 3G router is a communication device for civil use. Its reliability is limited. You can connect the DC power supply cable of a 3G router to the SmartLogger. This allows the SmartLogger to control the reset of the 3G router when the communication link is interrupted, improving the reliability of the communication link.

7.28.1 Setting DO Parameters

This topic describes how to set DO configuration parameters for resetting an external 3G router over the WebUI.

Context

The SmartLogger provides three DO ports. You can connect one DC power cable of the 3G router to one DO port in series and power on or off the wireless module by disconnecting or connecting the DO dry contact to control the reset of the 3G router.

Considering the restrictions on the current that can pass the DO port of the SmartLogger, you need to determine the number of DO ports to be used for the control based on the maximum power supply current of the 3G router (the maximum power supply current can be calculated based on the maximum power consumption and DC power supply voltage).

- When the power supply current is smaller than 1 A, use one DO port.
- When the power supply current is larger than 1 A but smaller than 1.6 A, use two DO ports.
- When the power supply current is larger than 1.6 A but smaller than 2.4 A, use three DO ports.
- When the power supply current is larger than 2.4 A, access is not allowed because the current exceeds the upper limit.

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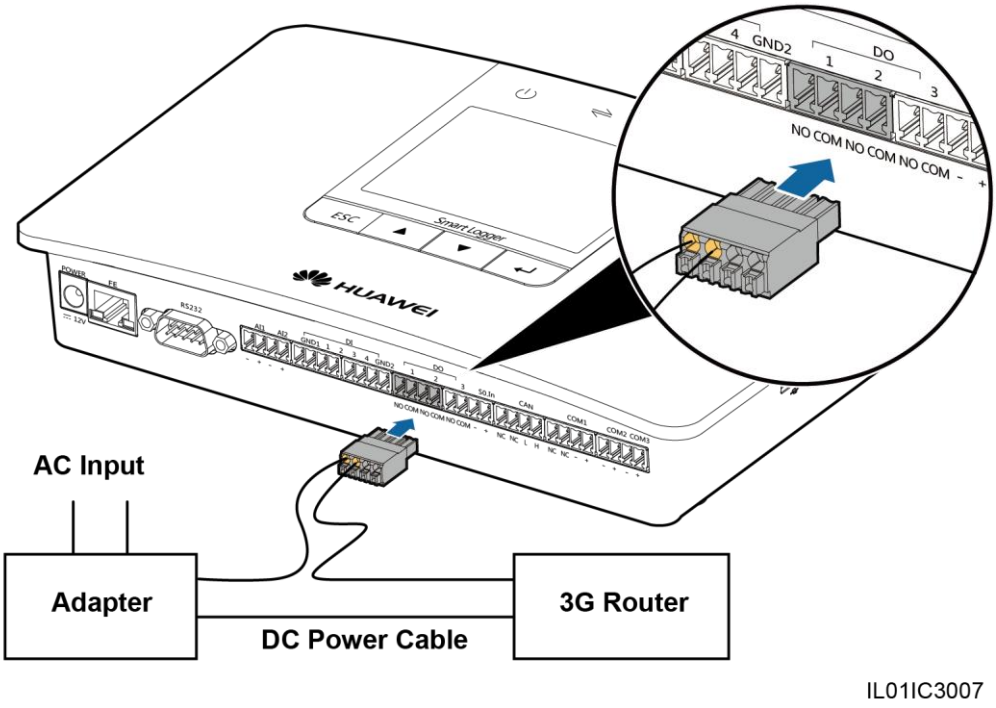
Connecting a 3G Router to the SmartLogger Over a DO Port

Before connecting a 3G router to the SmartLogger, cut off a DC power cable of the connector, and then connect the cable cut to the DO port on the SmartLogger.

- Figure 7-65 shows the connection when one DO port is used.

Figure 7-65 Connecting one DO port



- Figure 7-66 shows the connection when two DO ports are used.

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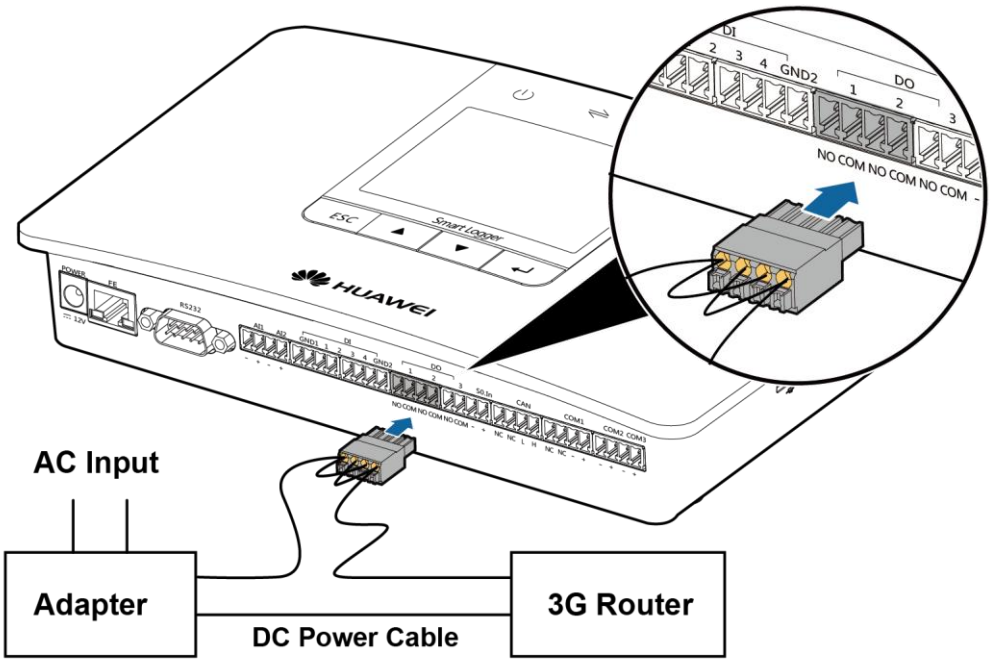
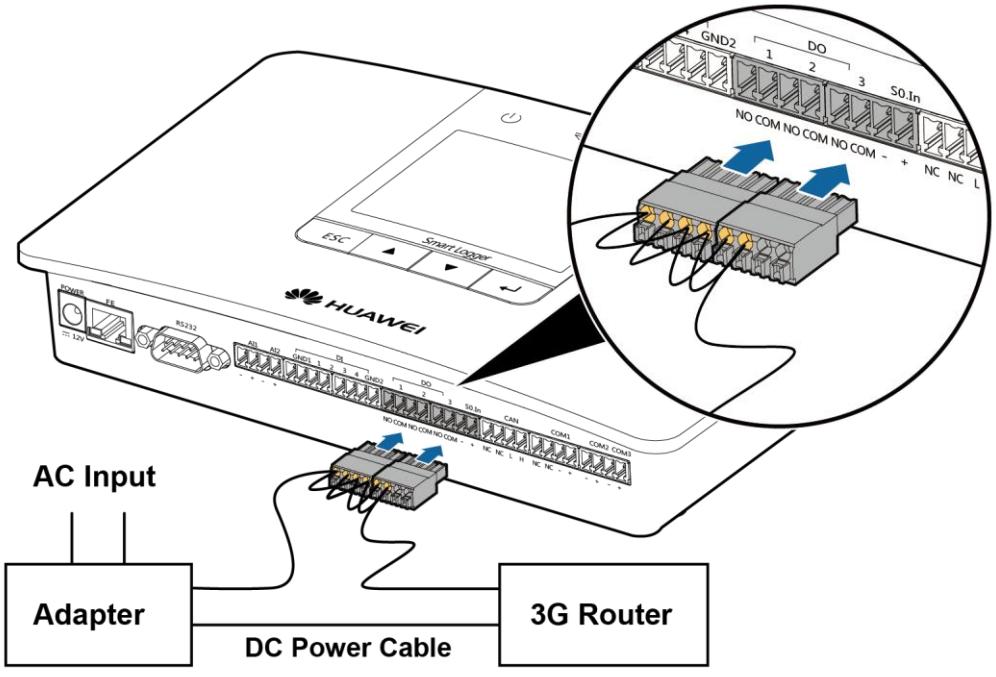
Figure 7-66 Connecting two DO ports



- Figure 7-67 shows the connection when three DO ports are used.

Figure 7-67 Connecting three DO ports



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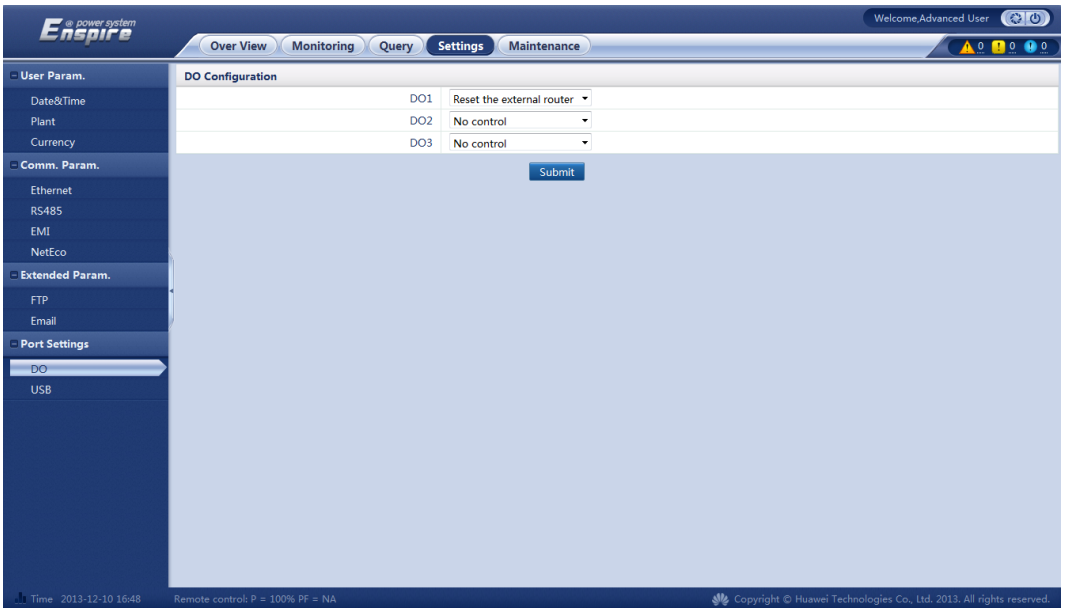
DO Configuration

After connecting the 3G router to the SmartLogger properly, you can set DO configuration parameters over the WebUI to make the external 3G router automatically reset if the SmartLogger fails to connect to the NetEco, email server, or FTP server within 30 minutes.

On the **Settings** tab page, choose **Port Settings** > **DO** and set **DO1**, **DO2**, and **DO3** to **Reset the external router** or **No control**, as shown in Figure 7-68. Because of the limited permission, select the User name as **Advanced User**.

Figure 7-68 DO configuration



NOTE

Set **DO1**, **DO2**, and **DO3** to **Reset the external router** or **No control** based on the connections between the router and the three DO ports of the SmartLogger.

7.28.2 Setting USB Parameters

This topic describes how to set USB parameters for resetting an external 3G router over the WebUI.

Context

The SmartLogger provides a USB port, which has a power capacity of 5 V/1 A. If the DC power cable of the 3G router has a standard USB connector and has a maximum current of less than 1 A, it can directly connect to the USB port on the SmartLogger. Hence the SmartLogger can power on or off the 3G router, which allows the SmartLogger to control the reset of the 3G router when the communication link is interrupted.

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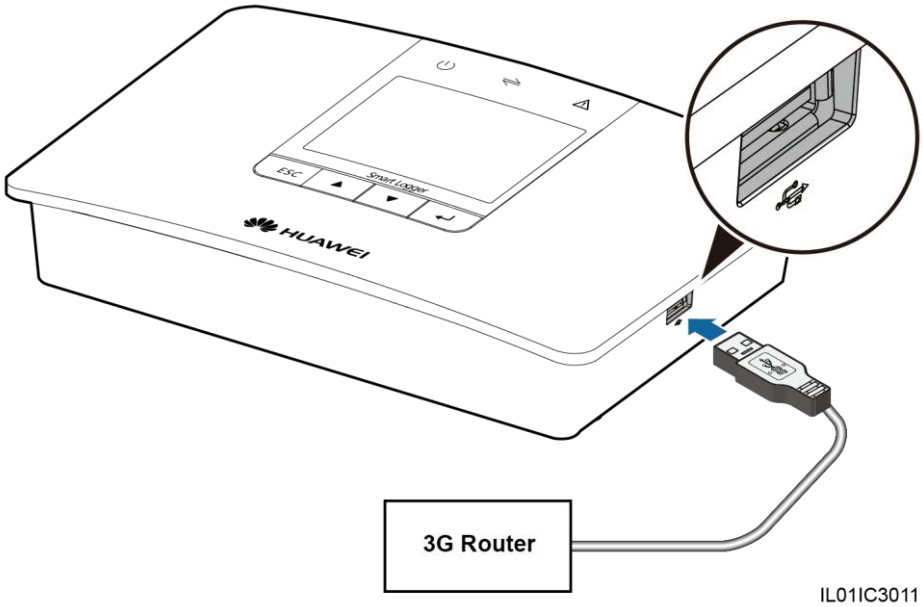
NOTICE

- Only the SmartLoggers in versions later than V100R001C90SPC300 enjoy this function.
- If the maximum working current of the 3G router is greater than 1 A, it cannot be connected over a USB port.

Connecting a 3G Router over a USB

Connect the USB connector of the DC power cable of the 3G router to the USB port on the SmartLogger, as shown in Figure 7-69.

Figure 7-69 Connecting the 3G router and the SmartLogger



USB Configuration

After connecting the 3G router to the SmartLogger properly, you can set USB configuration parameters over the WebUI to make the external 3G router automatically reset if the SmartLogger fails to connect to the NetEco, email server, or FTP server within 30 minutes.

On the **Settings** tab page, choose **Port Settings** > **USB** and set USB to **Reset the external router** or **No control**, as shown in Figure 7-70. Because of the limited permission, select the User name as **Advanced User**.

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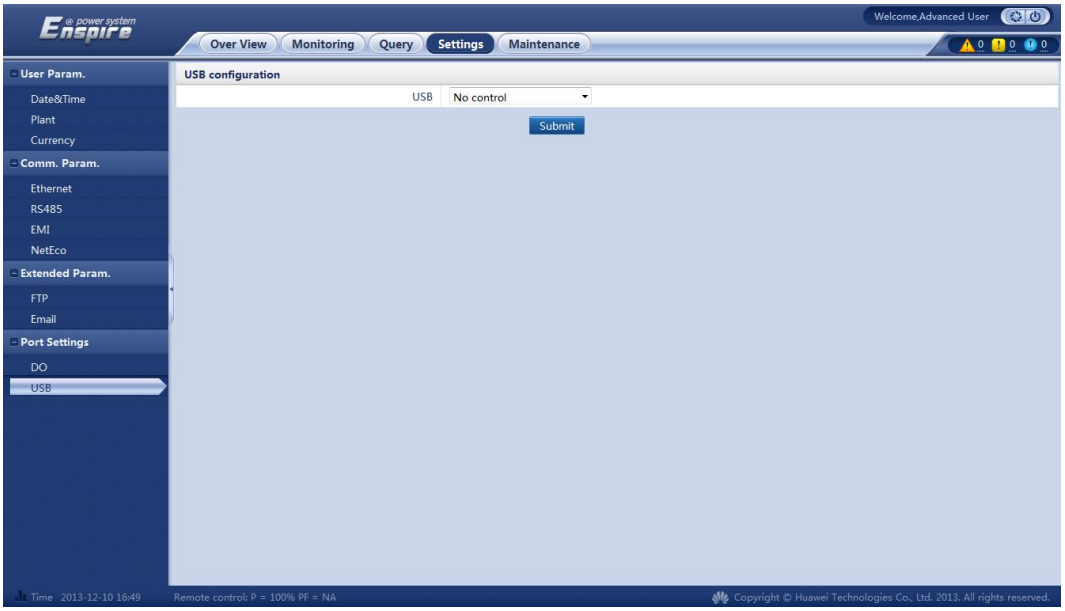
Figure 7-70 USB configuration



7.29 Grid Dispatch

This topic describes the power grid dispatching function.

In a PV power generating system, the short-term fluctuation and periodic changes of the local illumination may lead to a tremendous power fluctuation, which brings risks to the power grid running.

The power grid dispatching center should build up a real-time dispatching mechanism to ensure that the power output from the PV power generating system takes precedence during the load peak hours. If the power grid is faulty or a voltage or frequency imbalance occurs between the power generating side and the power consuming side, the power grid dispatching center sends the active power control and reactive power control command to ensure the secure power grid running.

As the core device in the communications system of the PV power station, Smart Logger receives the remote dispatching signals, analyzes the dispatching commands, and sends the commands to all the inverters connected to it. The power grid dispatching person can set all the parameters on the WebUI to meet different customers' requirements.

By integrating grid-tied PV system standards of various countries and regions, the Smart Logger also provides various and flexible power grid dispatching meet different requirements of countries and regions. Figure 7-71 shows the application of a Smart Logger in a PV power station.

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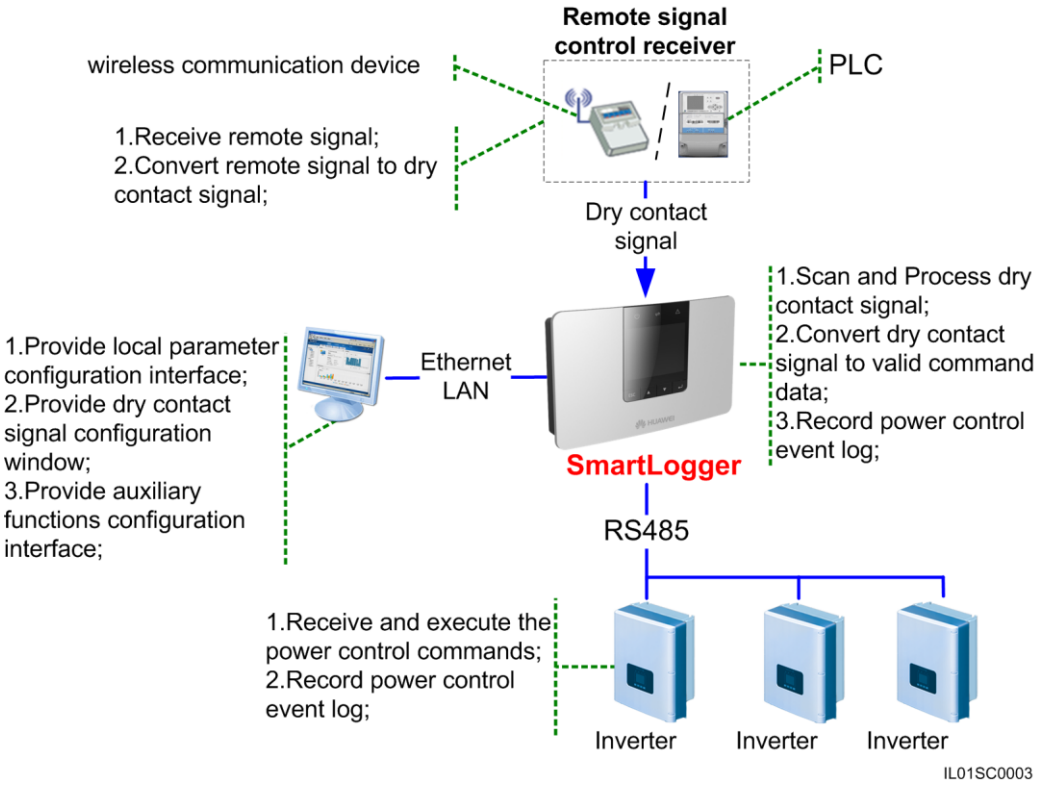
Figure 7-71 Application of the Smart Logger in a PV power station



7.29.1 Active Power Control

This topic describes how to set the active power control mode, including Disable active power reduction, Remote control, Percentage fix limitation, and Remote comm.sched. over the WebUI.

The SmartLogger can send remote dispatching commands in real time to inverters connected to it, which ensures that the PV power station can quickly respond to the requirements of the power grid company.

If the power grid or the PV power station is faulty, the power grid dispatching personnel should limit the active power or disable all the active power for the power station, that is, to enable the active power reduction mode.

NOTICE

The SmartLogger controls the active power of connected inverters only when active power control is **Enable**.

Disabling the Active Power Reduction

If a small-scale PV power generating system connects to the power grid, the power grid dispatching does not function in real time. If the inverter is required to work in maximum

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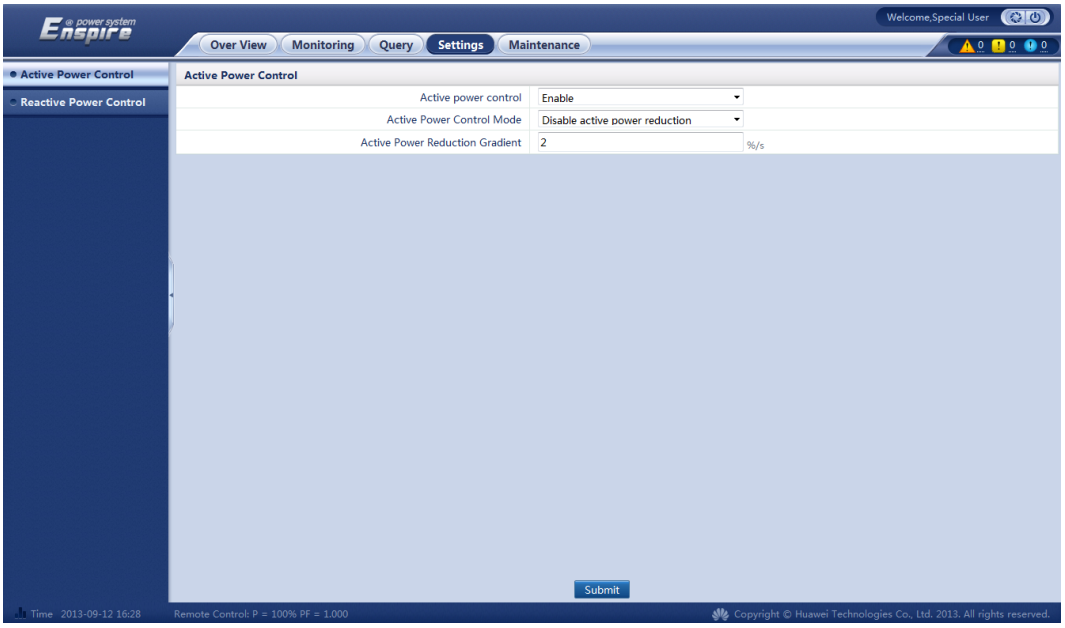
power output mode, select **Disable active power reduction** shown in Figure 7-72. The output of the inverter will not be derated.

Figure 7-72 Disabling the active power reduction



Remote Control

The SmartLogger scans all the dry contact signals sent from the power dispatching related devices (the wireless receiver controller or power carrier communications devices), analyzes the valid command data identified by the inverters, and sends the data to all the inverters connected to the SmartLogger.

Set **Active Power Control Mode** to **Remote control**, as shown in Figure 7-73.

NOTICE

Ensure that the SmartLogger is properly connected to the Ripple Control Receiver before you set **Active Power Control Mode** to **Remote control**. For details, see 4.5 Connecting the SmartLogger to a Ripple Control Receiver.

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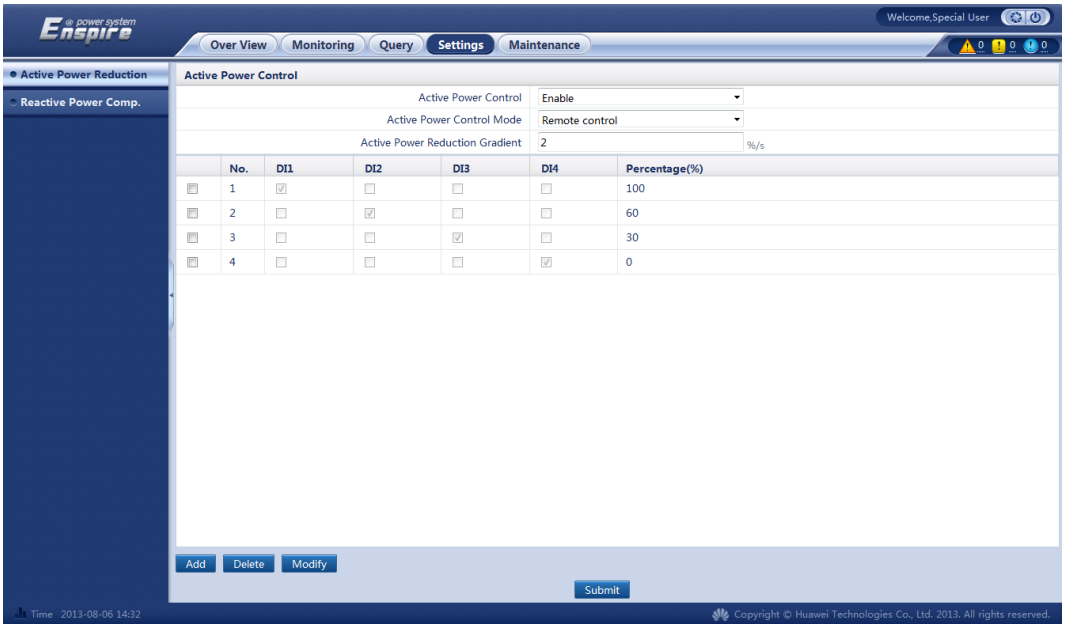
Figure 7-73 Remote control



NOTE

- Users can set the active power reduction gradient to control active power change speed of the grid-feeding point in the PV power station. The range is 0%/s to 10%/s.
- The active power is reduced by percentage. Four levels are recommended: 100%, 60%, 30%, and 0%.
- A maximum of 16 levels is supported for the active power reduction percentage.
- "√" means low level. When the four DI ports in the SmartLogger are connected to the GND2, low level is indicated; when they are not connected to the GND2, high level is indicated.
- The percentage levels of DI1, DI2, DI3, and DI4 should differ from each other. Otherwise, an abnormal command is generated.
- If the SmartLogger supports both active power control and reactive power control, DI1, DI2, DI3, or DI4 can be selected only once. In this case, four percentage levels are available.

Percentage Fix Limitation

The SmartLogger provides simplified local percentage settings for the active power reduction, which applies to small-scale grid-tied PV power generating systems or power stations with attendants. The SmartLogger also supports the automatic local power control, that is, to automatically adjust the active power reduction percentage in different periods of the day.

Users can specify the settings based on the output features of the power station. The SmartLogger will control the active power output of the inverters according to the user requirements.

Set **Active Power Control Mode** to **Percentage fix limitation**, as shown in Figure 7-74.

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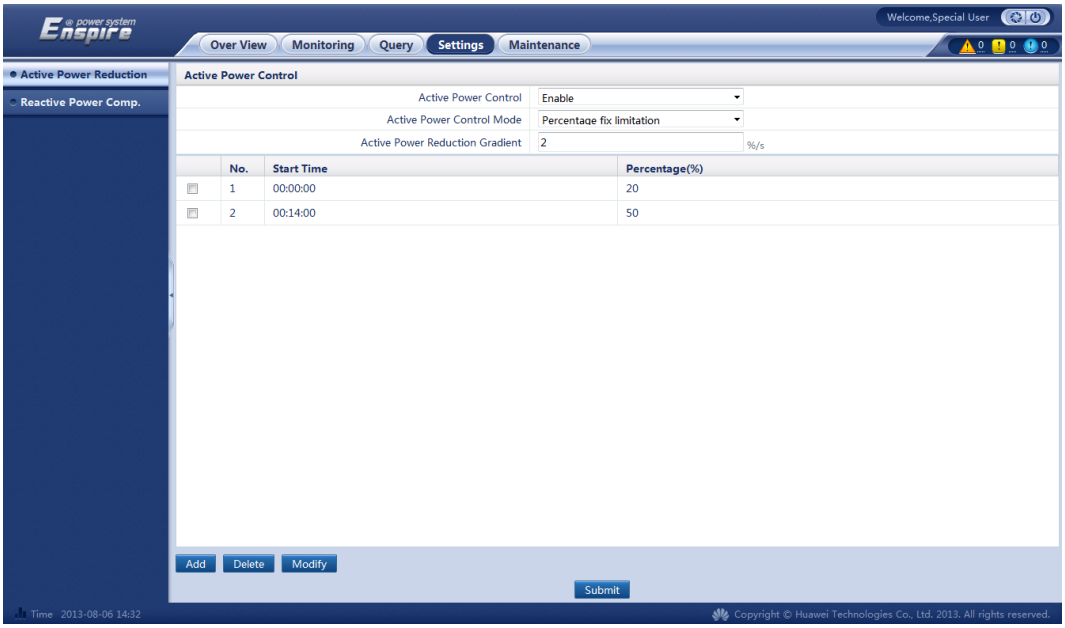
Figure 7-74 Percentage fix limitation



NOTE

- Set **Start Time** in the format of hh:mm:ss (in which hh means hour, mm means minute, ss means second).
- Users can set the active power reduction gradient to control active power change speed of the grid-feeding point in the PV power station. The range is 0 to 10%/s.
- If no separate periods are required, users can set only one start time.

Remote Communication Scheduling

When **Active Power Control Mode** is set to **Remote comm.sched.**, as shown in Figure 7-75, the SmartLogger receives the scheduling commands from the upstream EMS, converts them into valid command data identified by the inverters, and then sends the data to all the connected inverters. Based on the principle of preference of remote communication scheduling, the SmartLogger automatically set **Active Power Control Mode** to **Remote comm.sched.** after receiving a scheduling command from the upstream EMS.

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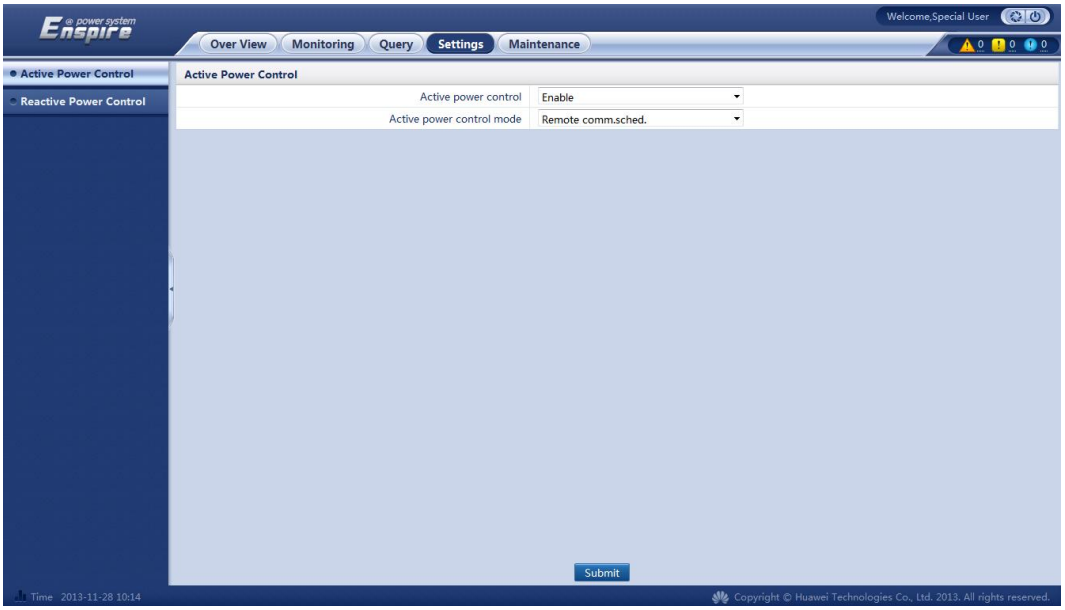
Figure 7-75 Remote communication scheduling



7.29.2 Reactive Power Control

This topic describes how to set the reactive power control mode, including Disable reactive power output, Remote Control Power Factor, Reactive power fix control, Power factor fix control, Characteristic curves, and Remote comm.sched., over the WebUI.

The SmartLogger can send remote dispatching commands in real time to inverters connected to it, which ensures that the PV power station can quickly respond to the requirements of the power grid company.

Large-scale power stations are required to adjust the voltage at the grid-feeding point. Power grid dispatching personnel enables the power station to reduce or add the reactive power at the grid-feeding point, that is, to enable the reactive power compensation, based on the real-time reactive power status in the power grid.

NOTICE

The SmartLogger controls the reactive power of connected inverters only when reactive power control is **Enable**.

Disabling Reactive Power Output

If the PV power station is not required to adjust the voltage at the grid-feeding point, but is required not to feed any reactive power to the power grid (or the reactive power at the load side can be compensated locally), select **Disable reactive power output**, as shown in Figure 7-76.

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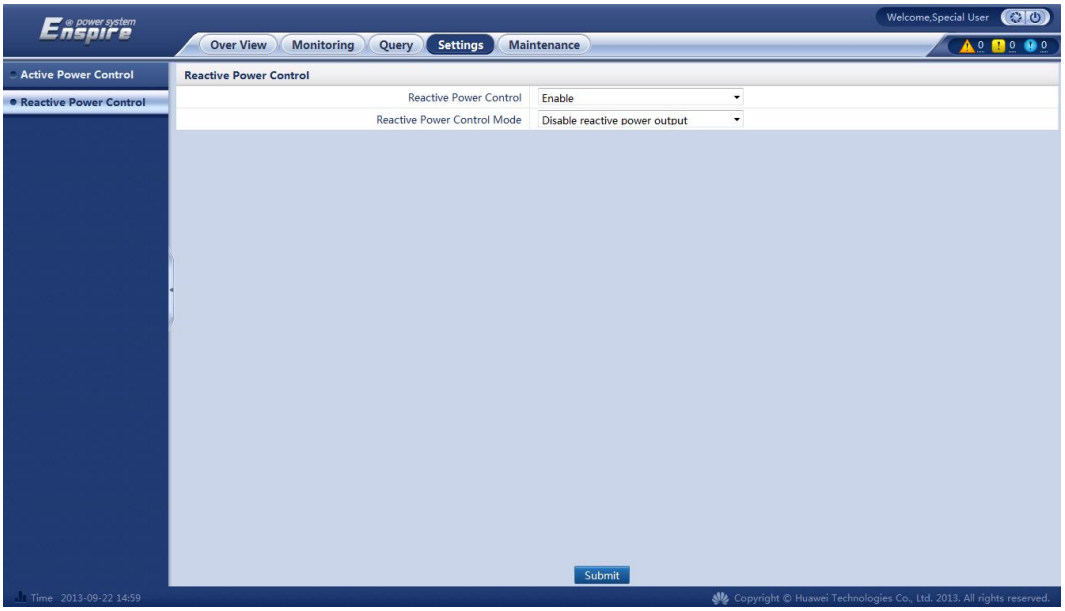
Figure 7-76 Disable reactive power output



Remote Control Power Factor

The SmartLogger scans all the dry contact signals sent from the power dispatching related devices (the wireless receiver controller or power carrier communications devices), analyzes the valid command data identified by the inverters, and sends the data to all the inverters connected to the SmartLogger.

Set **Reactive Power Control Mode** to **Remote control power factor**, as shown in Figure 7-77.

NOTICE

Ensure that the SmartLogger is properly connected to the ripple control receiver before you set **Reactive Power Control Mode** to **Remote control power factor**. For details, see 4.5 Connecting the SmartLogger to a Ripple Control Receiver.

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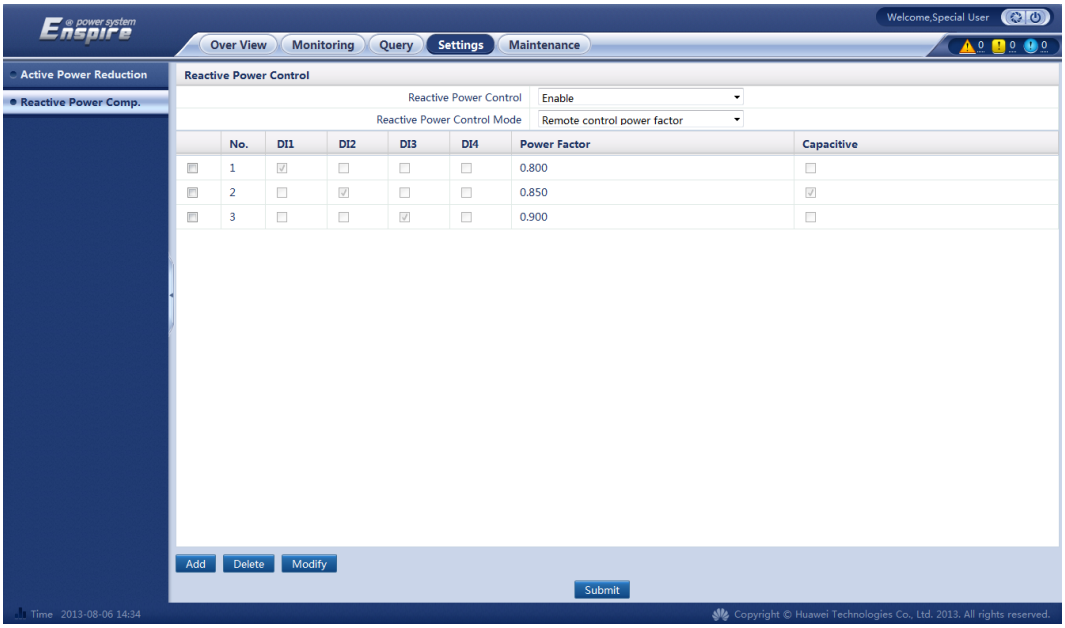
Figure 7-77 Remote control power factor



NOTE

- A maximum of 16 levels is supported for power factors.
- "√" means low level. When the four DI ports in the SmartLogger are connected to the GND2, low level is indicated; when they are not connected to the GND2, high level is indicated.
- The power factors of DI1, DI2, DI3, and DI4 should differ from each other. Otherwise, an abnormal command is generated.
- If the SmartLogger supports both active power control and reactive power control, DI1, DI2, DI3, or DI4 can be selected only once. In this case, four power factor levels are available.
- If a "√" is under **Capacitive**, the power factor is a negative value, indicating that the power grid supplies reactive power to the PV power station. If no "√" is under **Capacitive**, the power factor is a positive value, indicating that the PV power station supplies reactive power to the power grid.

Reactive Power Fix Control and Power Factor Fix Control

The SmartLogger provides simplified local settings for the reactive power fix control and power factor fix control, which applies to small-scale grid-tied PV power generating systems or power stations with attendants. The SmartLogger also supports the automatic local power control, that is, to automatically adjust the reactive power reduction absolute values and power factors in different periods of the day.

Users can specify the settings based on the output features of the power station. The SmartLogger will control the reactive power output of the inverters according to the user requirements.

Set **Reactive Power Control Mode** to **Reactive power fix control** or **Power factor fix control**, as shown in Figure 7-78 and Figure 7-78.

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Figure 7-78 Reactive power fix control

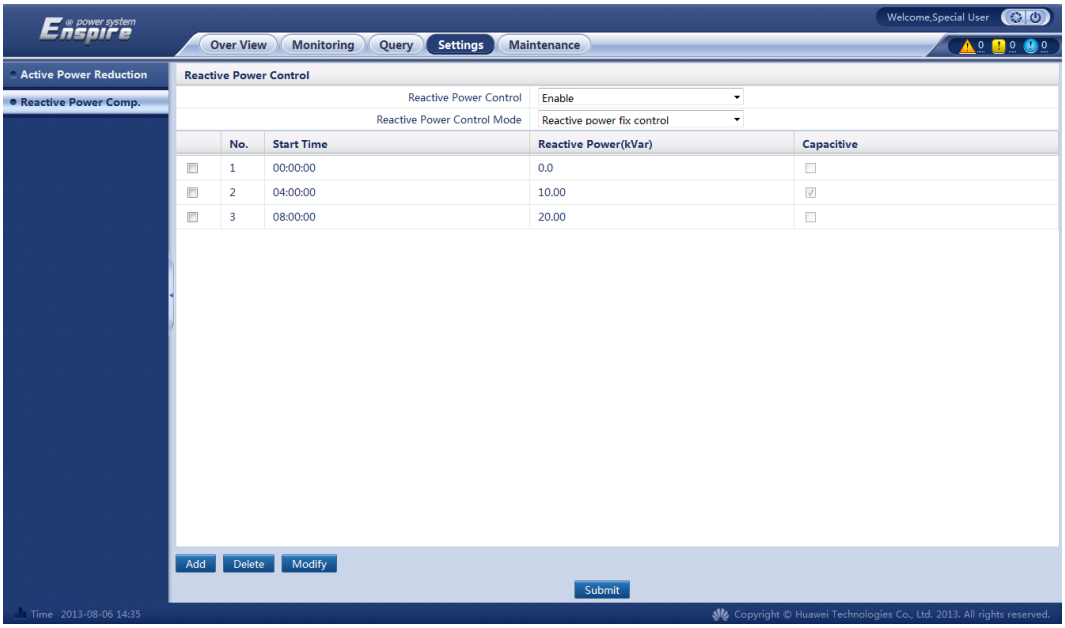
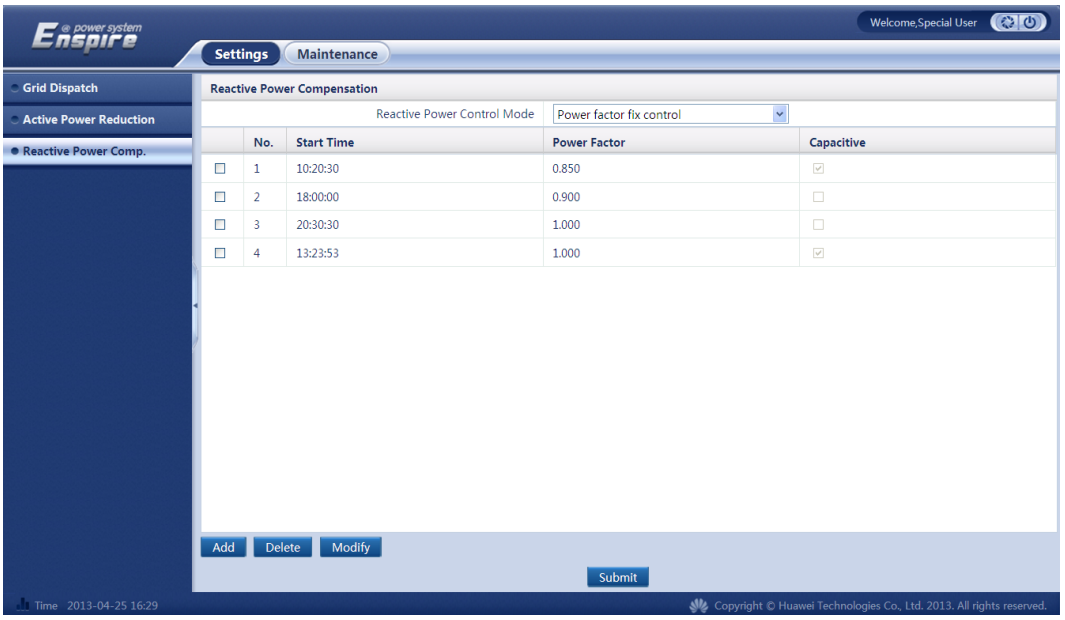


Figure 7-79 Power factor fix control



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NOTE

- Set **Start Time** in the format of hh:mm:ss (in which hh means hour, mm means minute, ss means second).
- If no separate periods are required, users can set only one start time.
- If a "√" is under **Capacitive**, the power factor is a negative value, indicating that the power grid supplies reactive power to the PV power station. If no "√" is under **Capacitive**, the power factor is a positive value, indicating that the PV power station supplies reactive power to the power grid.

Characteristic Curves

If the remote control of the reactive power compensation is unavailable, the SmartLogger provides the Q-U characteristic curve, cos(Phi)-P/Pn characteristic curve, or Q-U Hysteresis curve(CEI0-16) for substitute. The power dispatching personnel specifies the characteristic curve according to the requirements of the local power grid and grid-tied power system and sends the signal to all the connected inverters in real time.

Set **Reactive Power Control Mode** to **Q-U characteristic curve**, as shown in Figure 7-80, or to **cos(Phi)-P/Pn characteristic curve**, as shown in Figure 7-81, or to **Q-U Hysteresis curve(CEI0-16)**, as shown in Figure 7-82.

NOTE

- Q-U characteristic curve control mode is to dynamically adjust the ratio of the output reactive power to apparent power **Q/S** in accordance with the ratio of the actual grid voltage to the rated grid voltage **U/Un** (%).
- cos(Phi)-P/Pn characteristic curve control modes is to dynamically adjust the power factor **cosψ** in accordance with the ratio of the actual inverter output power to the rated inverter power **P/Pn** (%).
- Q-U Hysteresis curve(CEI0-16) control mode is the Italian standard CEI0-16 version of the Q-U characteristic curve. It dynamically adjusts the output reactive power of the inverter in accordance with the ratio of the actual voltage to the rated voltage of the grid-tied point. And the final value should be in the form of **Q/Pn**.

NOTICE

Set the parameters of characteristic curves under instructions from professionals to ensure that the inverters work properly.

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Figure 7-80 Q-U characteristic curve

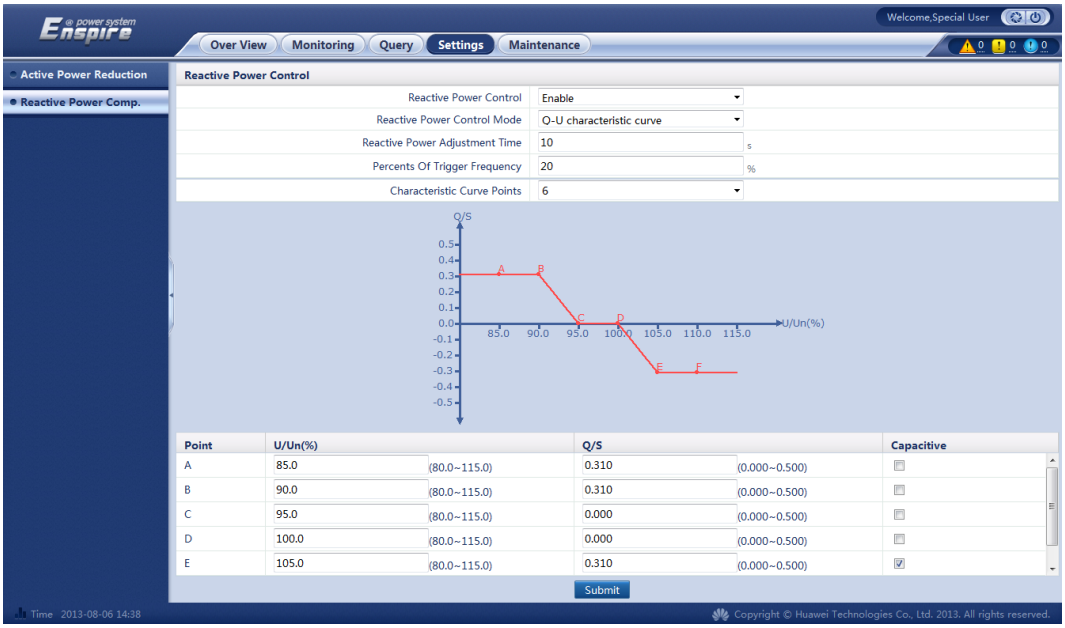

Figure 7-81 cos(Phi)-P/Pn characteristic curve

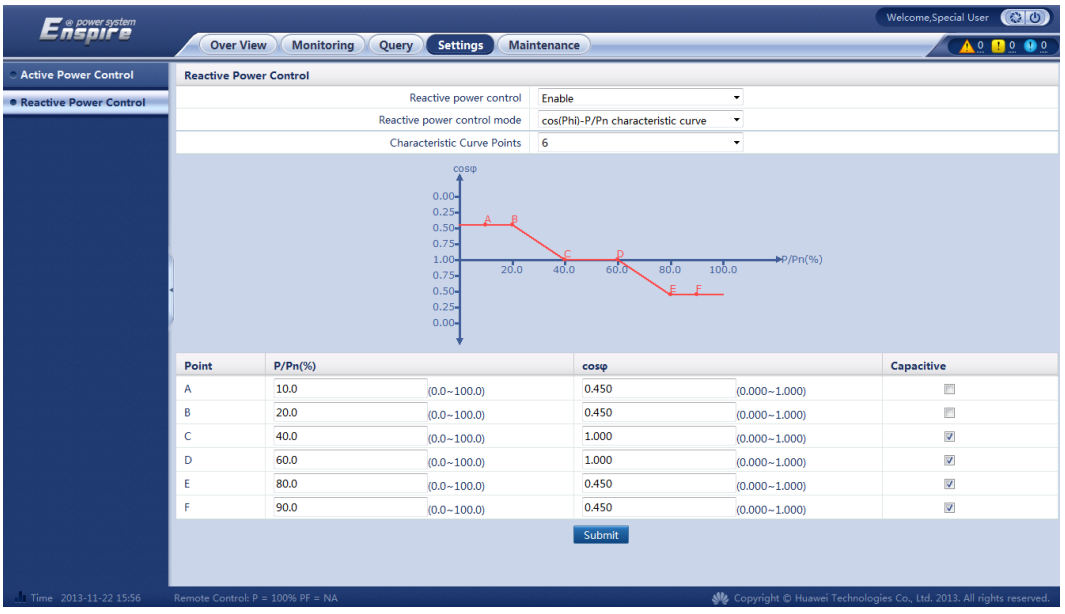

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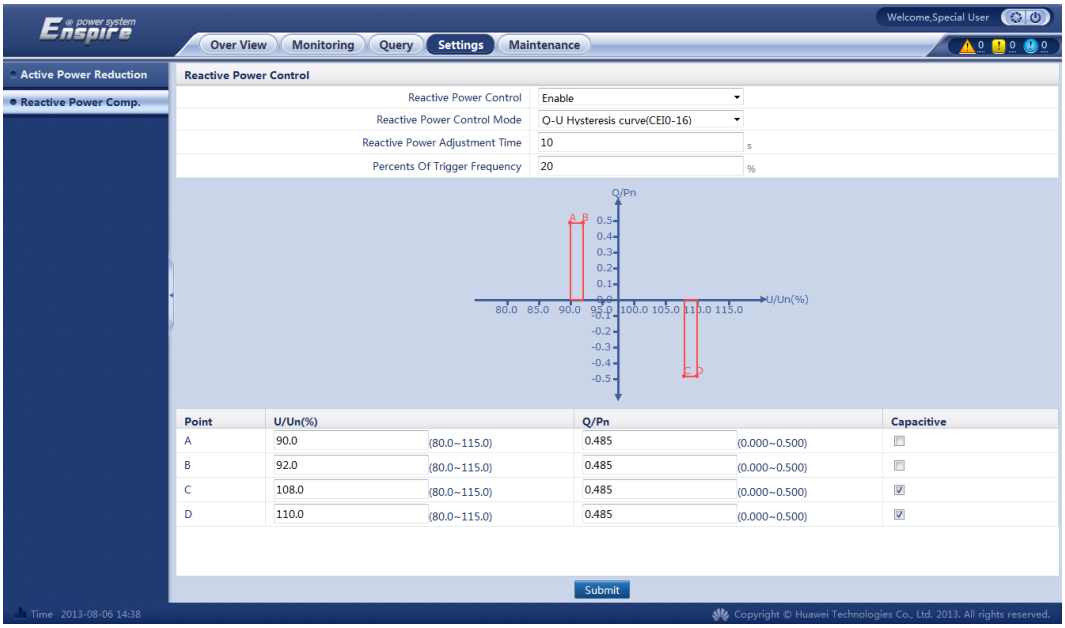
Figure 7-82 Q-U Hysteresis curve(CEI0-16)



NOTICE

When you set **Q-U Hysteresis curve (CEI0-16)**, ensure that the **Capacitive** settings of A and B are consistent, the **Capacitive** settings of C and D are consistent, and the **Capacitive** settings of A and B are different from the **Capacitive** settings of C and D.

NOTE

- When you set **Q-U Hysteresis curve (CEI0-16)**, ensure that the **U/Un(%)** or **P/Pn(%)** value of a point is larger than the **U/Un(%)** or **P/Pn(%)** value of the previous point. Otherwise, the **Invalid input** message is displayed.
- If a "√" is under **Capacitive**, the power factor is a negative value, indicating that the power grid supplies reactive power to the PV power station. If no "√" is under **Capacitive**, the power factor is a positive value, indicating that the PV power station supplies reactive power to the power grid.
- Both the Q-U characteristic curve and cos(Phi)-P/Pn characteristic curve can support a maximum of 10 valid data points.
- Set **Reactive Power Adjustment Time** to specify the changing intervals of the reactive power compensation for the grid-feeding point in the PV power station. The range is 0 to 60s.
- When adding data points for the curve, refer to the provided range in the right of the text box.

Remote Communication Scheduling

When **Reactive Power Control Mode** is set to **Remote comm.sched.**, as shown in Figure 7-83, the SmartLogger receives the scheduling commands from the upstream EMS, converts them into valid command data identified by the inverters, and then sends the data to all the connected inverters. Based on the principle of preference of remote communication scheduling, the SmartLogger automatically set **Reactive Power Control Mode** to **Remote comm.sched.** after receiving a scheduling command from the upstream EMS.

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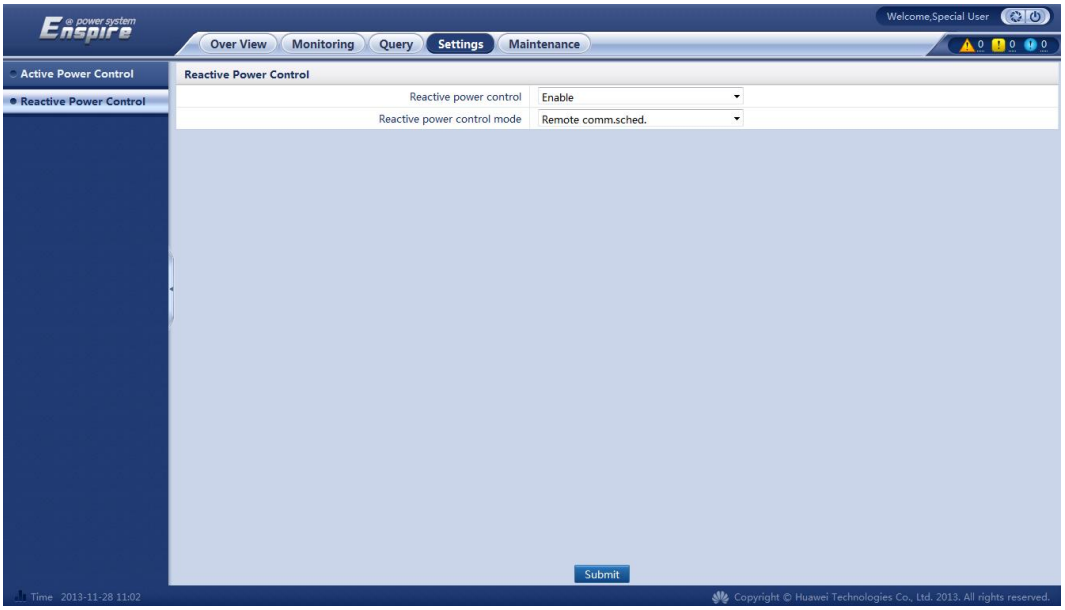
Figure 7-83 Remote communication scheduling



7.30 Upgrading Firmware

This topic describes how to upgrade firmware for the SmartLogger over the WebUI.

On the **Maintenance** tab page, click **Firmware Upgrade** and upgrade firmware for the SmartLogger. Because of the limited permission, select the User name as **Advanced User** or **Special User**.

1. On the **Firmware Upgrade** page, click **Browse**, select the updated file, and then click **Upload**, as shown in Figure 7-84.

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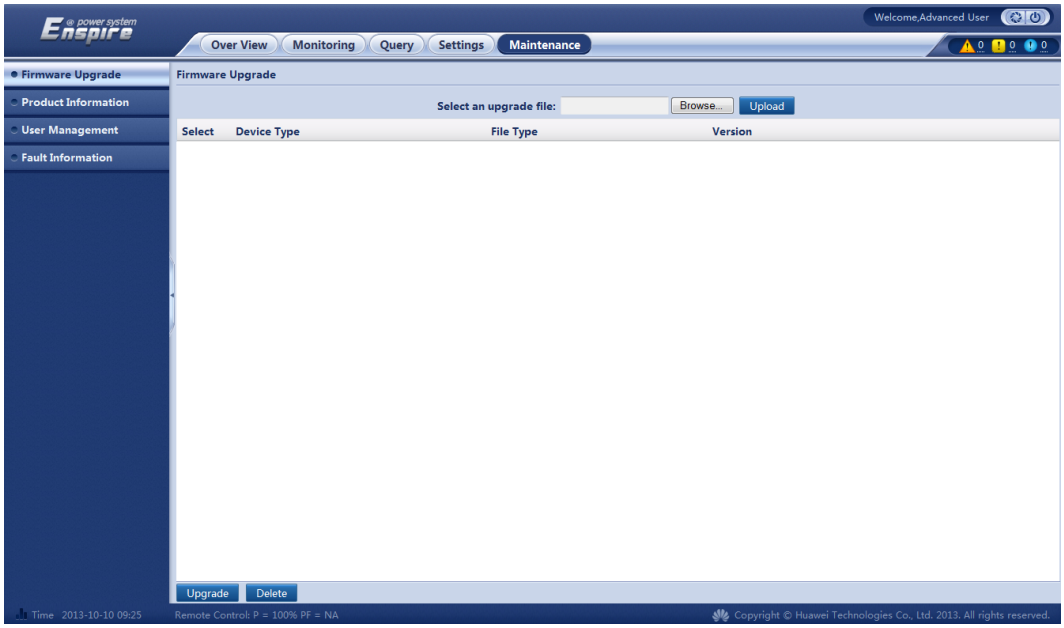
Figure 7-84 Updating the firmware



2. After the update file is uploaded, the displayed page lists the sub-files to be updated.
3. Select the item you need to update and click **Upgrade**. An update progress bar is displayed until the update is complete.
4. Select the items that do not need to be updated and click **Delete**.

7.31 Viewing Product Information

This topic describes how to view SmartLogger information, including SN, Hardware Version, Device Type, and Firmware Version, over the WebUI.

On the **Maintenance** tab page, click **Product Information**. **SN**, **Hardware Version**, **Device Type**, and **Firmware Version** are displayed, as shown in Figure 7-85.

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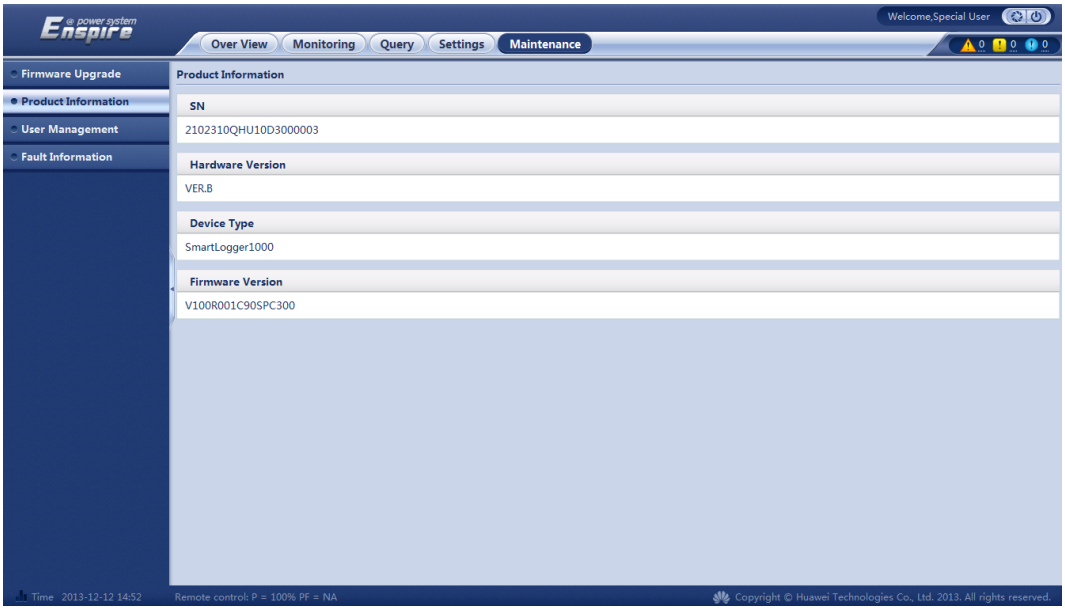
Figure 7-85 Product information

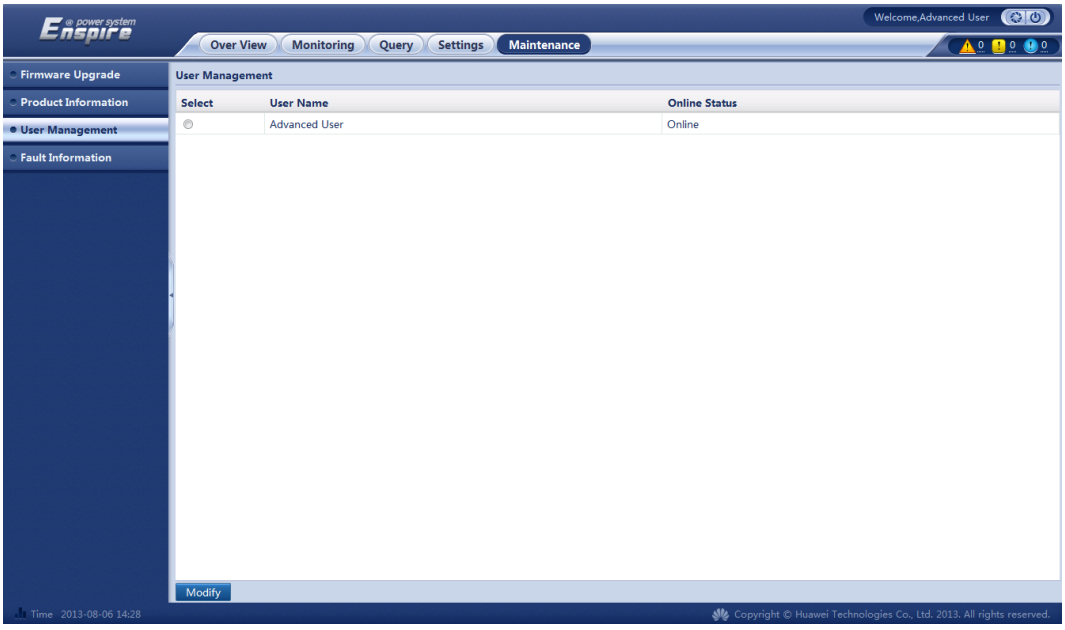


7.32 User Management

This topic describes how to change the password for the active user over the WebUI.

On the **Maintenance** tab page, you can select **User Management** to change a user password, as shown in Figure 7-86.

Figure 7-86 User management



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NOTE

Click **Modify** to change the password for the active user.

NOTICE

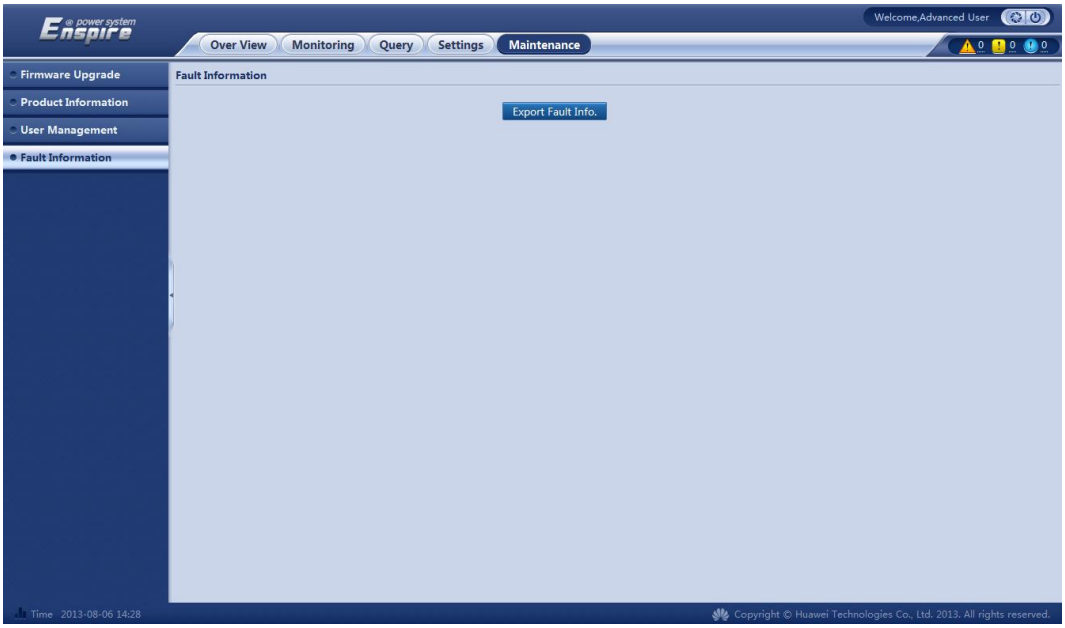
The password for login on the LCD is the same as that for login to the WebUI. After you change a password on the WebUI, the password on the LCD changes synchronously.

7.33 Exporting Fault Information

This topic describes how to export fault information over the WebUI.

On the **Maintenance** tab page, select **Fault Information** and click **Export Fault Info.**, as shown in Figure 7-87. Because of the limited permission, select the User name as **Advanced User** or **Special User**.

Figure 7-87 Fault information



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8 Maintenance

About This Chapter

This topic describes how to perform daily maintenance and troubleshooting to ensure long-term proper operation of the SmartLogger.

8.1 Daily Maintenance

This topic describes the daily maintenance for the SmartLogger.

8.2 Troubleshooting

This topic describes the common faults in the SmartLogger and the troubleshooting measures.

8.1 Daily Maintenance

This topic describes the daily maintenance for the SmartLogger.

- Check that the SmartLogger is free from strong electromagnetic interference.
- Check that the SmartLogger is free from heat sources.
- Check that the heat dissipation holes are not blocked.
- Clean up the dirt and dust for the SmartLogger periodically.
- Check that the cables are secured.

8.2 Troubleshooting

This topic describes the common faults in the SmartLogger and the troubleshooting measures.

Table 8-1 describes the common faults and the troubleshooting measures.

Table 8-1 Common fault list

No.	Symptom	Possible Cause	Measures
1	The SmartLogger cannot be	1. The DC output terminal of the power adapter does not connect to the **Power** port of	1. Connect the DC output of the power adapter to the **Power** port of the

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No.	Symptom	Possible Cause	Measures
	powered on.	the SmartLogger. 2. The AC input terminal of the power adapter does not connect to the AC power port. 3. Power adapter is faulty. 4. The SmartLogger is faulty.	SmartLogger. 2. Connect the AC input of the power adapter to the AC power port. 3. Replace the power adapter. 4. Contact the supplier or Huawei Customer Service Dept.
2	The LCD is off.	1. The LCD is faulty. 2. The SmartLogger is faulty.	Contact the supplier or Huawei Customer Service Dept.
3	The LCD does not respond when a button is pressed.	1. The button is faulty. 2. The SmartLogger is faulty.	Contact the supplier or Huawei Customer Service Dept.
4	Devices cannot be searched.	1. The COM port does not connect to any devices or the cables are loose. 2. The communications parameters for the RS485 port are incorrect. 3. No EMI is manually added. 4. The communications parameters for the EMI are incorrect. 5. The address for the inverter is not within the search address segment set for the SmartLogger.	1. Correctly set the RS485 communications parameters, and ensure that the baud rate and the communications address are correctly set. 2. Add the EMI manually. 3. Correctly set the EMI parameters 4. Set the address of the inverter to be within the search address segment set for the SmartLogger.
5	Devices Status is Disconnection on the SmartLogger.	1. The cable between the device and the SmartLogger is loose or disconnected. 2. The device is powered off. 3. The baud rate or RS485 address of the device is changed. 4. The device is replaced. 5. The device is no longer connected.	1. Verify that the cable between the device and the SmartLogger is properly connected and tightened. 2. Power on the device. 3. Verify the baud rate and RS485 address of the device. 4. If a device is replaced, search for or manually add the device. 5. If the device is removed, remove the device on the SmartLogger.
6	The EMI cannot be added.	1. The RS485 communications cable between the EMI and the SmartLogger is not properly connected, or the RS485 communications cable is loose or	1. Verify that the RS485 communications cable is properly connected and tightened. 2. Power on the EMI.

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No.	Symptom	Possible Cause	Measures
		disconnected. 2. The EMI is powered off. 3. The baud rate of the EMI is inconsistent with that of the SmartLogger. 4. Parameter settings of the EMI are incorrect.	3. Verify the baud rate of the EMI. 4. Log in to the WebUI and verify the parameter settings of the EMI.
7	The SmartLogger cannot communicate with the NetEco in the PC.	1. The SmartLogger is not connected to the PC, or the cable between the SmartLogger and the PC is loose or disconnected. 2. Ethernet parameters are not properly set. 3. NetEco parameters are not properly set.	1. Connect the Ethernet network port of the SmartLogger to the PC or router. 2. Check that the Ethernet parameters are correctly set. 3. Check that the NetEco parameters are correctly set.
8	Emails cannot be received.	1. The SmartLogger cannot communicate with the email server. 2. Ethernet parameters are not properly set. 3. Email parameters are not properly set.	1. Connect the Ethernet network port of the SmartLogger to the PC or router. 2. Check that the Ethernet parameters are correctly set. 3. Check that the Email parameters are correctly set.

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9 Disposing of the SmartLogger

This topic describes how to dispose the SmartLogger.

If the service life of the SmartLogger expires, dispose of the SmartLogger according to the local disposal act for waste electric appliances. You can also return it to Huawei, with the related expenses paid.

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10 Technical Specifications

This topic describes the SmartLogger technical specifications.

Device management

Specifications	SmartLogger1000
Number of managed devices	60
Communications mode	Three RS485 ports
The maximum communication distance	RS485: 1000 m; Ethernet: 100 m

Display

Specifications	SmartLogger1000
LCD	3.5-inch LCD
Indicator	Three indicators
WEB	Embedded

Common parameters

Specifications	SmartLogger1000
Power supply	90 V AC to 270 V AC, 50 Hz or 60 Hz
Power consumption	Normal: 3 W; maximum: 7 W
Storage capacity	70 MB flash. Can be expanded to 16 GB by configuring an SD card.
Language	English, Chinese, German, Italian
Dimensions (H x W x D)	140 mm x 225 mm x 50 mm

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Specifications	SmartLogger1000
Weight	500 g
Operating temperature	-20℃to +60℃
Relative humidity (non-condensing)	5%–95%
Protection level	IP20
Installation mode	Installed on a wall, desk, or along a guide rail.

Port

Specifications	SmartLogger10001
Ethernet	10/100M, Modbus-TCP
RS485	Modbus-RTU
USB	Supported
Digital parameter input	4
Analog input	2
Relay output	3

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11 Quality Assurance

Warranty

During the warranty, the user should provide the invoice and date. At the same time, the signs on the products should be clear. Otherwise, Huawei will not be liable for the quality assurance. The warranty period for the SmartLogger is 24 months. The warranty starts from the time that the customer accepts the equipment, and the starting date should be within 90 days after delivery. The contract prevails if it specifies the warranty.

Quality Assurance Regulations

- Huawei maintains or replaces the equipment freely if the equipment becomes faulty within the warranty.
- Return the faulty equipment to Huawei.
- The customer reserves appropriate time for Huawei to maintain the faulty equipment.

Disclaimer

- Damage caused during transportation
- Incorrect installation
- Misoperation
- Damage caused by abnormal natural environments
- Operation under severe environments which are not specified in this document
- Unauthorized product changes and software code modification
- Usage under installation and operating environments which are not specified in related international specifications
- Neglect of the safety precautions and regulations specified in this document

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